THE INDISPENSIBLE WEAPON: AIRPOWER IN EMERGING US GRAND

STRATEGY

BY

MAJOR JAMES C. MCFARLAND

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JAMES W. FORSYTH JR.   (Date)

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RICHARD R. MULLER   (Date)

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ABOUT THE AUTHOR

Major James C. McFarland graduated from the United States Air Force Academy in 1999. Following casual status, he graduated from Specialized Undergraduate Pilot Training at Columbus AFB, Mississippi as a Distinguished Graduate in 2000. He completed F-15C training at Tyndall AFB, Florida in 2001. He is a 2005 Top Third Graduate of Squadron Officer School. In June 2006, he graduated from the United States Air Force Weapons School at Nellis AFB, Nevada. He is a 2011 Distinguished Graduate of Air Command and Staff College. His flying assignments in the F-15C included Eglin AFB, Florida, Kadena AB, Japan, and Nellis AFB, Nevada. Major McFarland served as an instructor at the United States Air Force Weapons School while at Nellis AFB. Major McFarland has flown defense missions in support of Operation NOBLE EAGLE and has deployed with USAFCENT as the CFACC's Special Projects Officer in support of Operations IRAQI FREEDOM and ENDURING FREEDOM. He has a Bachelor of Science degree in Aeronautical Engineering from the US Air Force Academy, a Master of Military Operational Art and Science from Air Command and Staff College, and a Master of Philosophy in Military Strategy from the School of Advanced Air and Space Studies, Air University, Maxwell AFB, Alabama. Upon graduation from SAASS, Maj McFarland will lead 11th Air Force's Strategy and Plans Division at Elmendorf AFB, Alaska.

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ABSTRACT

This study aims to examine the contemporary environment and propose offshore balancing as the most appropriate US national security strategy for the future. The author begins by evaluating the most pressing threats to US national security in terms of rising regional powers employing advanced military technology, debilitating national debt, and waning prestige on the international stage. From this analysis, the study illustrates the value of offshore balancing as compared to other strategic candidates as the most economical strategy to maintain America's role as the securer of the global commons while minimizing economic and military overreach. As a form of offshore balancing, the author proposes containment via airpower-enabled exclusion zones (EZ) as a valuable policy option to maintain regional power balances rather than costly ground occupation. By examining recent EZ operations, the study distills the strategic value of EZs and illustrates the operational capabilities necessary to achieve EZ objectives. Finally, the author applies these lessons to a potential future threat employing modern military capabilities to illustrate the stunning gap between current force structure and capabilities and those required to accomplish EZ operations without putting a substantial percentage of US airpower force structure at risk. The author concludes airpower is the US's indispensable weapon for maintaining its position in the global order.

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Introduction

As presently deployed in support of our commitments, the armed forces of the United States are over-extended, thereby depriving us of mobility and initiative for future military action in defense of the free world.

National Security Council Report 162/2, *A Report to the National Security Council by The Executive Secretary on Basic National Security Policy*, 30 October 1953

The United States faces profound challenges that require strong, agile, and capable military forces whose actions are harmonized with other elements of national power. Our global responsibilities are significant; we cannot afford to fail. The balance between available resources and our security needs has never been more delicate.

US Department of Defense, *Sustaining U.S. Global Leadership: Priorities for the 21st Century*, January 2012

For officials concerned with US national security policy at the end of the Korean War, several threats presented daunting challenges. The threat of communist expansion led by the Sino-Soviet bloc dominated discussion. Though trailing the US in atomic strike capability, their sizable conventional forces, vast manpower and material resources, and growing atomic capacities cast a long shadow on the future of American security. In addition, increasing resentment against the West based on rising nationalism, anti-colonialism, social and economic inequity, and ideological differences hampered the United States' ability to build cooperative partnerships with much of the world.[1] Furthermore, a $266 billion debt fed by wartime expenditures and excessive government spending rising to the tune of $9.4 billion per year endangered the

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[1] National Security Council Report (NSC) 162/2, *A Report to the National Security Council by The Executive Secretary on Basic National Security Policy* (Washington, DC: National Security Council, 30 October 1953), 14. Document is now declassified.

economic foundation of US strength.[2] To put it in perspective, in today's dollars, this equates to approximately $2.2 trillion.[3]

Faced with fiscal constraints and continued responsibilities for the maintenance of the free world, the NSC recognized the US could neither go it alone, nor react to every problem. Empowered by growing European and Asian allied economic and military strength, the NSC recommended a military strategy founded on alliances and burden sharing. It relied on allied consensus, access to foreign bases, and rapidly deployable US airpower to provide critical advantages in future conflicts.[4] Furthermore, it contended the preponderance of ground forces required to counter local aggression should come from allied forces.[5] The NSC charted a course to build allied consensus and counter the communist threat by relying on balance of power policies and carefully scrutinizing expenditures with national security requirements.[6]

The security dynamics of 1953 and those of 2012 parallel one another. In essence, though the international political environment has changed, the US faces similar security and budgetary challenges. The emergence of regional powers in pursuit of anti-access and area denial capabilities such as China and Iran will be a primary area of concern for US national security.[7] Despite successes in the decade-long Global War on Terror, al-Qaida, its affiliates, and other terrorist organizations still pose a threat to the US and its allies. Additionally, the Arab Awakening

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[2] For inflation adjustments from 1953 to the present, multiply by 8.21. Infoplease, History and Government, "1953," http://www.infoplease.com/year/1953. html (accessed 15 February 2012), and NSC 162/2, 15.

[3] Infoplease, History and Government "1953."

[4] NSC 162/2, 5-8.

[5] NSC 162/2, 20.

[6] NSC 162/2, 5-14.

[7] US Department of Defense, *Sustaining U.S. Global Leadership: Priorities for the 21st Century* (Washington, DC: Department of Defense, 5 January 2012), 4.

demonstrates the inherent instability in much of the developing world and uncertainty for the future of states under pressure to reform.[8]

Today, the US military prepares to meet these challenges after a decade of sustained conflict in the Global War on Terror. After initial success ousting the Taliban and Saddam Hussein from power, the military underwent significant restructuring to conduct counter insurgency (COIN) and counter terrorism (CT) on a prolonged and massive scale. Both the US Army and Marine Corps ranks swelled considerably to meet the demands of troop surges designed to provide regional security and reduce the strain on a frequently deployed force. The US Air Force (USAF) also restructured, drastically improving its intelligence, surveillance, and reconnaissance (ISR) capacities with increases in remotely piloted aircraft (RPA) forces and the introduction of other COIN-specific platforms such as the MC-12W Liberty. These efforts, while necessary to secure, stabilize, and rebuild Iraq and Afghanistan, pose significant challenges for military leaders concerned with future force posture and structure against near-peer competitors.

The past decade has also brought about a precipitous decline in world opinion regarding the US.[9] The Bush administration's emphasis on preventive war and unilateral action represented a significant departure from previous US policy and alienated many longstanding allies. Some even argue that the mere presence of US ground troops catalyzes anti-US sentiments, bolstering terrorism and insurgent activity against perceived occupation.[10] According to General Tony Zinni, "The Iraqis wanted Saddam gone, but not under the conditions we were

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[8] Department of Defense, *Sustaining U.S. Global Leadership*, 2.

[9] Joseph E. Stiglitz and Linda J. Bilmes, *The Three Trillion Dollar War: The True Cost of the Iraq Conflict* (New York, NY: WW Norton & Company, 2008), 4.

[10] Robert A. Pape, *Dying to Win* (New York, NY: Random House, 2005), 247.

imposing on them."[11] Despite the best intentions, these actions fuel distrust of US intentions around the globe.

Finally, there is the budget deficit. As of May 2012, the US national debt is approaching $16 trillion, increasing by approximately $1.2 trillion per year.[12] The costs of military operations during the past decade alone are staggering. According to a recent Congressional Research Service report, the US Congress has approved $1.283 trillion for military operations, security, reconstruction, and veteran's health care since September 11, 2001.[13] Some estimate the true cost of the war to total $3 trillion in the coming years due to lost economic potential and continuing veterans' assistance.[14] The DOD will not be immune to coming austerity measures designed to reverse the trends of deficit spending. Despite years of steadily increasing budgets, deficit reduction measures will reduce DOD future expenditures by $487 billion over the next ten years.[15]

In response to the changing geopolitical environment and domestic fiscal challenges, the Obama administration's new defense guidance calls for policy shifts toward smaller, more agile forces, advanced systems, power projection into anti-access environments, and refocus on the Asia Pacific and the Middle East.[16] It calls for sustainable defense strategies achieved through strong alliances, burden sharing, and technological investment; clearly signaling a shift from the strategies of the last ten years.

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[11] GEN Tony Zinni, *The Battle for Peace: A Frontline Vision of America's Power and Purpose* (New York, NY: Palgrave MacMillan, 2006), 125.

[12] US Debt Clock.org, http://www.usdebtclock.org/ (accessed 6 May 2012).

[13] Amy Belasco, *The Cost of Iraq, Afghanistan, and Other Global War on Terror Operations Since 9/11* (Washington, DC: Congressional Research Service, 29 March 2011), 1.

[14] Stiglitz and Bilmes, *The Three Trillion Dollar War,* x.

[15] US Department of Defense, *Defense Budget Priorities and Choices* (Washington DC: Department of Defense, January 2012), 1.

[16] Department of Defense, *Sustaining U.S. Global Leadership,* introductory letter by Secretary of Defense Leon Panetta.

Despite these challenges, the US will remain the world's greatest military power for some time to come and it will maintain global responsibilities for stability and security. However, the US cannot afford to do it all. In the current geopolitical and fiscal environment, the most pressing question is: what constitutes 'sustainable defense?' In other words, what strategy should the US adopt to achieve its national security goals?

Research Question

The argument advanced here is that offshore balancing is the most appropriate strategy to accomplish America's goals. According to John Mearsheimer, an offshore balancer is a "distant hegemon" that allows regional states to balance against a growing threat, only intervening militarily if its regional allies are unable to suppress the challenge.[17] By building partnerships, aiding allied military development, requiring regional allies to share the burden, and investing in rapidly deployable, highly mobile forces, the US can meet regional challenges without overstretching its own military forces and purse strings. Furthermore, by stressing deterrence and containment over regime change, the US can build regional trust and restore US credibility at home and abroad.

The heart of this thesis orbits around this idea: air-based exclusion zones (EZ) are an economical, sustainable, and effective method to counter threats to US national security. I will provide strategic and operational assessments of previous EZ operations. Then I will illustrate how the US could employ EZ operations against a China in the South China Sea (SCS).

GEN Zinni described two methods for strategy development. First, one can decide on a strategy and then use the available power and influence to attempt to shape the environment to fit that strategy or one

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[17] John J. Mearsheimer, *The Tragedy of Great Power Politics* (New York, NY: WW Norton & Company, 2001), 41.

can observe the environment and shape strategy to achieve the best outcome within the limits of the environment and one's power.[18] An offshore balancing strategy built around airpower will allow the US to achieve such outcomes within the constraints of the current environment.

A Way Ahead

Chapter 1 begins with an analysis of the current strategic environment and examines three strategies: primacy, retrenchment, and offshore balancing strategies.

Chapters 2 and 3 analyze EZ operations within the context of offshore balancing strategies. Chapter 2 will explore the progression of Operation NORTHERN WATCH (ONW) and SOUTHERN WATCH (OSW) from air cover operations for threatened minority groups in the north and south to deterrent operations to contain the Iraqi threat. Chapter 3 will examine airpower's ability to control an adversary's surface forces given difficult alliance, terrain, and threat challenges during Operation ALLIED FORCE (OAF). These chapters will provide strategic and operational assessments of airpower's ability to achieve its stated objectives during these EZ operations.

Chapter 4 applies offshore balancing to ongoing territorial and resource disputes in the SCS. Currently, up to 40% of global sea-borne trade passes through these waters. Up to 90% of energy imports for several regional nations pass through the SCS.[19] China has the most capable military and the most extensive territorial claims. As East Asian economic growth continues, this semi-contained sea's strategic importance will only increase. Violent conflict could have significant

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[18] Zinni, *The Battle for Peace,*143.

[19] Chris Rahman and Martin Tsamenyi, "A Strategic Perspective on Security and Naval Issues in the South China Sea," *Ocean Development and International Law* 41, no. 4 (2010), 317.

global impact. This chapter will analyze US involvement in the region and provide US leadership with policy recommendations for balancing against Chinese aggression in this vital region.

Building on this analysis, Chapter 5 discusses potential EZ operations in the SCS. First, I examine EZ operations and analyze relevant Chinese military capabilities and their threat to EZ forces. Finally, I discuss critical airpower capabilities necessary to employ EZs against advanced threats and make recommendations for US airpower acquisition to ensure the US can continue to project power against near-peer threats.

The thesis concludes with a review of offshore balancing, EZs, and the capabilities necessary to enforce them against modern threats. In the end, the intent here is to underscore the importance of airpower and its relationship to national security strategy. Just as the United States was widely viewed as "the indispensible nation" after the end of the Cold War, so is airpower in every way the indispensible weapon.

Chapter 1

A Strategy for Today

While the US remains the most powerful nation in the world, its once dominant position is eroding. Some contend unipolarity was a passing fad.[1] Others argue notions of US decline are merely myths perpetuated by inaccurate interpretations of US history and compounded by worries induced by economic recession.[2] Though neither argument may prove true in the long run, the current administration acknowledges the US will face significant challenges in the coming years requiring significant modifications to US strategy.[3] Selecting the appropriate strategy will require a clear understanding of the most pressing challenges to US national security.

The purpose of this chapter is to recommend such a strategy for the near future. It will begin by analyzing the most pressing challenges to US security in the forms of rising regional powers, US economic strength, and the erosion of US international prestige. It will then evaluate three strategic candidates: primacy, retrenchment, and offshore balancing. Finally, it will examine exclusion zones (EZ) as a form of offshore balancing and discuss airpower's unique capabilities relative to EZ operations.

Modern Challenges to US Security

According to Robert Gilpin, managing global power-transitions is the most pressing problem a declining great power may face. Quite simply, there comes a time in every great power's life when the costs of

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[1] See Randall L. Schweller and Xiaoyu Pu, "After Unipolarity: China's Visions of International Order in an Era of US Decline," *International Security* 36, No. 1 (Summer 2011): 41-2, and Christopher Layne, "China's Challenge to US Hegemony," *Current History* 107, no. 705 (January 2008): 13.

[2] Robert Kagan, "Not Fade Away: Against the Myth of American Decline," *Brookings* (17 January 2012), http://www.brookings.edu/opinions/2012/0117_us_power_kagan.asp X (accessed 15 February 2012).

[3] Department of Defense, *Sustaining U.S. Global Leadership*, 1-3.

maintaining security outstrip its ability to pay. During such times, challengers emerge and are looking for opportunities to change things. [4] As consumption begins to outstrip production, uncertainty rises, the dominant power begins to feel vulnerable and the likelihood of war increases.

The US has dominated the international system since the end of the Cold War. Militarily, it enjoys a substantial lead in conventional capabilities. Economically, however, its position has been slipping. The US share of global gross domestic product (GDP) dropped from approximately 50% after WWII to 25% in 1970, and currently sits at approximately 17%.[5] Brazil, India, Russia, and the EU have all experienced significant economic growth in the past decade with corresponding influence in the international system. But these achievements pale in comparison to China's rise over the last thirty years.

China has experienced average annual economic growth rates of nearly 10% since the 1980s.[6] Based on expected continued growth, some project its GDP will surpass that of the US by 2027.[7] China's dramatic economic growth stands in contrast to the relative weakness of its neighbors to include Japan, the Philippines, Indonesia, Vietnam, and Brunei, giving it strong regional influence. Furthermore, Christopher Layne argues China's rapid economic growth drives its emergence as a great international power. He claims China's rise follows Gilpin's familiar

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[4] Robert Gilpin, *War and Change in World Politics* (Cambridge, UK: Cambridge University Press, 1981), 95.

[5] Kagan, "Not Fade Away," and Mark J. Perry, "US Share of World GDP Remains Remarkably Constant," *NASDAQ*, 20 November 2009, http://community.nasdaq.com /News/2009-11/U-S--Share-of-World-GDP-Remains-Remarkably-Constant.aspx? storyid=17032 (accessed 11 May 2012).

[6] US Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2011* (Washington: DC, Department of Defense, 2011), 41.

[7] Kevin Hamlin and Li Yanping, "China Overtakes Japan as World's Second Largest Economy," *Bloomberg* (16 August 2010), http://www.bloomberg.com/news/2010-08-16/china-economy-passes-japan-s-in-second-quarter-capping-three-decade-rise.html (accessed 1 May 2012).

pattern of uneven growth with the potential for impacts on the international order.[8] Some of this economic growth has gone to the modernization of China's military forces. According to Jan Van Tol, the Chinese took US performance in the first Gulf War and response to the 1995-1996 Taiwan Strait crisis as lessons in the value of modern military forces.[9] Since that time, the Chinese have steadily increased their annual defense budget to include a 12.7% increase in 2011.[10] Of concern to the US is their investment in anti-access, area denial (A2/AD) technologies designed to inhibit the deployment and use of foreign expeditionary forces.[11]

China's neighbors also worry about its "creeping assertiveness" in economic and territorial disputes such as those over the SCS.[12] These waters serve as a major shipping lane for the global economy and could hold vast quantities of natural resources. Though China maintains it seeks peaceful resolution of SCS disputes, it has increasingly discussed them in terms of national sovereignty and continues to pressure its neighbors through unilateral negotiations.[13]

China's continued rise does not mean that violent conflict to rearrange the international system is inevitable. However, according to a recent DOD assessment, "China's rise as a major international actor is likely to stand out as a defining feature of the strategic landscape of the early 21st century."[14] Furthermore, the recent US defense focus shift to Asia coupled with emphasis on countering A2/AD highlight the

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[8] Layne, "China's Challenge to US Hegemony," 13.

[9] Jan Van Tol et al., *AirSea Battle: A Point of Departure Concept*, (Washington, DC: Center for Strategic and Budgetary Assessments, 2009), 2.

[10] US Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2011*, 41.

[11] Van Tol et al., *AirSea Battle*, 1.

[12] Jacob Bercovitch and Mikio Oishi, *International Conflict in the Asia-Pacific: Patterns, Consequences, and Management*, (New York, NY: Routledge, 2010), 102.

[13] Bercovitch and Oishi, *International Conflict in the Asia-Pacific*, 105.

[14] US Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2011*, i.

requirement for an appropriate strategy to engage with China while still maintaining treaty obligations and international law.[15] Such a strategy will require significant resources. However, it must emerge at a time when the foundation of US strength, its national economy, is undergoing turmoil.

In the past decade, the US national debt has reached staggering proportions. As of 6 May 2012, total US debt was $15.7 trillion, resulting in $50,100 of debt per US citizen.[16] Foreign governments, to include China, hold significant portions of this debt, reducing US influence relative to those nations. Furthermore, continual annual federal budget deficits only worsen the problem.[17] Dick Nanto, a Congressional Research Service specialist in industry and trade, argues the US has generally pursued a "rich man's approach" to national security, relying on overwhelming force coupled with vast economic strength and resources to deter and prevail against an adversary.[18] Should measures to reverse current US economic trends fail, the ability of the US to utilize its power in the international arena will be drastically curtailed. While steadily increasing defense budgets over the past decade have not been the sole cause of US economic woes, reductions in defense spending will be a critical part of the recovery.

President Obama highlighted the requirement to "put our fiscal house in order here at home and renew our long-term economic strength" in his introductory letter to the 2012 defense policy statement.[19] With regard to national defense spending, the Budget Control Act of 2011 mandates a $487 billion reduction in defense

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[15] Department of Defense, *Sustaining U.S. Global Leadership*, 2.

[16] US Debt Clock.org, http://www.usdebtclock.org/ (accessed 6 May 2012).

[17] Dick K. Nanto, *Economics and National Security: Implications for US Policy* (Washington, DC: Congressional Research Service, 4 January 2011), Summary.

[18] Nanto, *Economics and National Security*, Summary.

[19] US Department of Defense, *Sustaining U.S. Global Leadership: Priorities for the 21st Century*, introductory letter by President Barack Obama.

spending over the next decade.[20] Additionally, should the US Congress fail to reach a compromise on $1.2 trillion in government spending cuts this year, legislation will require $600 billion more in defense cuts.[21] Given the enormous costs incurred in military operations since 9/11, such cuts call into question future US ability to conduct large, long duration military operations in foreign territory.

According to the Congressional Research Service, the US spent nearly $1.3 trillion on Operations NOBLE EAGLE (ONE), ENDURING FREEDOM (OEF), and IRAQI FREEDOM (OIF) during the period from 9/11 through FY 2011.[22] Including FY 2012 appropriations, the total increases to $1.415 trillion.[23] Yearly appropriations increased dramatically for both Iraq ($53 billion in '03 to $142 billion in '08) and Afghanistan ($19 billion in 2006 to $118 billion in 2011) due mainly to increases in troop levels in theater.[24] According to an administration estimate, it costs nearly $1 million to fund one soldier in Afghanistan for one year.[25] Combined with a lack of domestic tax increases to help offset the cost, these operations have placed a tremendous burden on the national economy.[26] Furthermore, economist Joseph Stiglitz and national public policy and finance expert Linda Bilmes estimate the true cost of the wars in Iraq and Afghanistan to be $3 trillion over the long term due to veterans' benefits, lost wages, and economic recession.[27]

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[20] Department of Defense, *Defense Budget Priorities and Choices*, 1.

[21] David Alexander and Jim Wolf, "Military Budget Cuts: Pentagon Unveils 2013 Plan," *Huffington Post* (26 January 2012), http://www.huffingtonpost.com/2012/01/26/ military-budget-cuts-pentagon_n_ 1234761.html (accessed 1 May 2012).

[22] Amy Belasco, *The Cost of Iraq, Afghanistan, and Other Global War on Terror Operations Since 9/11* (Washington, DC: Congressional Research Service, 29 March 2011), 1.

[23] Belasco, *The Cost of Iraq, Afghanistan, and Other Global War on Terror*, 10.

[24] Belasco, *The Cost of Iraq, Afghanistan, and Other Global War on Terror*, 11.

[25] Belasco, *The Cost of Iraq, Afghanistan, and Other Global War on Terror*, 1.

[26] Joseph E. Stiglitz and Linda J. Bilmes, *The Three Trillion Dollar War: The True Cost of the Iraq Conflict* (New York, NY: WW Norton & Company, 2008), 7.

[27] Stiglitz and Bilmes, *The Three Trillion Dollar War*, x.

These figures highlight the requirement for a critical reassessment of US defense strategy in light of our economic difficulties. Given the staggering cost of occupation operations in Iraq and Afghanistan, future US defense strategies must ensure prolonged operations requiring large land forces in foreign territory are absolutely necessary for US national security. However, these operations do not only incur monetary costs. Such operations can also have a negative effect on international prestige based on the conduct of the conflict.

In *The Accidental Guerilla*, counterinsurgency expert David Kilcullen describes a dramatic shift in international opinion of the US since 9/11. The day after 9/11, an editorial writer in the French journal *Le Monde* expressed her solidarity with the American people by stating, "*Nous sommes tous Américains*" (We are all Americans).[28] Five years later, at the height of the Iraqi insurgency, Kilcullen asked the author if she still felt the same way. Responding negatively, she claimed "some people wonder if Americans are still Americans."[29] Though the US and France do not see eye-to-eye in all areas, the French are still a close ally. Legitimacy, especially with our allies, is a critical component to US strategy. According to John Ikenberry, US moral authority, credibility, and respect for alliances have traditionally been its strongest institutional characteristics.[30] He asserts they allowed the US to develop the most successful international order in world history.[31] By conducting occupation operations without significant allied support, the US weakened its credibility among its allies, reducing the chances of receiving support for future military operations. Such support will be ever more critical in future fiscally constrained environments.

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[28] Jean-Marie Colombani quoted in David Kilcullen, *The Accidental Guerilla: Fighting Small Wars in the Middle of a Big One*, (Oxford, UK: Oxford University Press, 2009), 272.
[29] Kilcullen, *The Accidental Guerilla*, 272.
[30] G. John Ikenberry and Stephen Walt, "Offshore Balancing or International Institutions? The Way Forward for US Foreign Policy," debate at the Watson Institute for International Studies in *Brown Journal of World Affairs* 14, no. 1 (Fall/Winter 2007): 15.
[31] Ikenberry and Walt, "Offshore Balancing or International Institutions?," 15.

Unilateral military action also increases tensions with potential challengers. According to Stephen Walt, such challengers view the recent use of US military force in OIF and OEF as dangerous.[32] While countries such as Russia fear US military presence near their borders, many Middle Eastern nations oppose continued American 'meddling' in their affairs.[33] Layne cautions against unilateral hegemonic action. He argues such actions lead to a "paradox of power,' whereby actions taken by the hegemon lead to counterbalancing by weaker states fearful of its power.[34] Such counterbalancing actions serve to further weaken the hegemon in the international system.

Finally, the mere presence of US troops in foreign territories incites hatred. Robert Pape argues ground combat power in foreign land is the primary cause of suicide terrorism worldwide.[35] According to Pape, the common goal of virtually all suicide terrorists is to compel a democratic state to remove combat forces the terrorists view as occupiers rather than liberators.[36] Kilcullen's analysis reinforces Pape's findings with regard to guerilla forces. He contends these forces generally fight to remove Western intrusions into their territory.[37]

The issues of rising powers in the international system, a weak US economic foundation, and the loss of prestige from recent US military action will provide significant challenges to continued US global hegemony. Opinions as to an appropriate future US strategy vary. However, the three strategic candidates of primacy, retrenchment, and offshore balancing form the core of the arguments. Analysis of these

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[32] Ikenberry and Walt, "Offshore Balancing or International Institutions?," 14.

[33] Christopher Layne, "Offshore Balancing Revisited," *The Washington Quarterly* 25, no. 2 (Spring 2002): 236.

[34] Layne, "Offshore Balancing Revisited," 237.

[35] Robert A. Pape and James K. Feldman, *Cutting the Fuse: The Explosion of Global Suicide Terrorism and How to Stop It*, (Chicago, IL: University of Chicago Press, 2010), 9.

[36] Pape and Feldman, *Cutting the Fuse*, 9.

[37] Kilcullen, *The Accidental Guerilla*, xiv.

candidates with regard to future challenges provides crucial insights into the future of US defense strategy.

Choosing a Strategy

The foundational premise of primacy strategy is that a preponderance of US power in the international system ensures peace. Primacy advocates believe the US should maintain sufficient capabilities to meet any challenge to its position or the stability of the international order. Realist primacy advocates are most concerned with rising challengers to US hegemony and seeks political, economic, military superiority over these potential threats.[38] While they are committed to liberal ideals, they argue for judicious use of military power toward liberal projects to avoid overreach.[39] However, liberal institutionalist primacy views also incorporate the belief that failed states represent a significant threat and that containment is not an option.[40] They believe US intervention can turn failed states into successful states. They also argue US actions have inherent legitimacy given its status as the world's foremost power and from international institutions through which the US has considerable power.[41] The Bush administration's invasion of Iraq and Afghanistan is an example of such primacy strategies. Both these schools call for the US to maintain substantial "forcible-entry" combat power and numerous ground forces to enable direct military intervention in failed or rogue states.[42] Furthermore, primacy supporters advocate for large forward deployed forces to reduce response time during crises.

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[38] Barry R. Posen and Andrew L. Ross, "Competing Visions for US Grand Strategy," *International Security* 21, no. 3 (Winter 1996/97): 30.

[39] Posen and Ross, "Competing Visions for US Grand Strategy," 32.

[40] Barry R. Posen, "Stability and Change in US Grand Strategy," *Orbis* 51, no. 4 (September 2007): 563-4.

[41] Posen, "Stability and Change in US Grand Strategy," 564.

[42] Posen, "Stability and Change in US Grand Strategy," 565.

Given the employment of primacy strategies since 9/11, the US interventions in Iraq and Afghanistan should be strategic indicators for primacy strategies. From this perspective, primacy strategies present clear problems in fiscally constrained environments, fear of US interference, and perceptions of US intentions. Furthermore, the current situations in Iraq and Afghanistan give no clear indication as to the success of primacy theory. Posen argues that if nothing else, Iraq should teach primacy advocates the difficulties in achieving ground intervention and regime change objectives.[43]

Despite these concerns, some strategists and military professionals still back primacy strategies or force structures that support them. During recent comments, US Army Chief of Staff GEN Ray Odierno supported maintaining a large ground force in the Pacific as the US shifts focus to that region.[44] He argued his case by stating that seven of world's largest ten armies exist in the region, making armies the "most influential forces" there.[45] Similarly, LT GEN David Barno (US Army, retired) argues for a division of responsibility among the services with ground forces maintaining the lead in the Middle East.[46] He contends large ground forces are required to deal with an increasing Iranian threat and possible Pakistani government collapse.[47] Both these statements come on the heels of former Secretary of Defense Robert Gates' warning that anyone who advocates getting involved in a land war in Asia "should have his head checked."[48]

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[43] Posen, "Stability and Change in US Grand Strategy," 565.

[44] Otto Kriesher, "Odierno Tries to Stake Army Claim to Wider Pacific Role," *National Journal* (21 February 2012), republished in *Current News Service*, http://ebird.osd.mil /ebird2/ebfiles/e20120222870988.html (accessed 22 February 2012).

[45] Kriesher, "Odierno Tries to Stake Army Claim to Wider Pacific Role."

[46] David W. Barno, Nora Bensahel, and Travis Sharp., "Pivot but Hedge: A Strategy for Pivoting to Asia While Hedging in the Middle East," *Orbis* 56, no. 2 (March 2012): 2.

[47] Barno, Bensahel, and Sharp, "Pivot but Hedge," 5.

[48] Kriesher, "Odierno Tries to Stake Army Claim to Wider Pacific Role."

Given the current state of the US economy and the distrust of US intentions with regard to ground force interventions, primacy does not seem to provide a solid foundation for US strategy for the near future. Retrenchment advocates contend the US should 'cut bait and run' in order to save costs while attempting to maintain its international position.

According to Gilpin, a nation can retrench by reducing its political, territorial, or economic commitments in order to balance its resources and costs.[49] He asserts a state can retrench by simply abandoning some commitments, entering into alliances to build cooperative power and share burdens, or seek concessions from rising powers.[50] Applying retrenchment strategies to the Pacific would require the US to either leave its regional allies to balance against a rising China on their own or seek to appease China with concessions relative to its growing strength.

Retrenchment is difficult to achieve. Gilpin contends retrenchment is, by its nature, an indicator of decline, tempting rivals to act on perceived weakness to better their position.[51] The question is whether or not the US can afford to retrench without loss to its prestige and international position. Layne argues US preoccupation with the war on terror has already allowed some south-east Asian states to fall further into a "political orbit" around China.[52]

However, some argue limited retrenchment is an option for declining powers. MacDonald and Parent contend that by rebalancing their commitments by concentrating scarce resources at key points of challenge, declining powers can effectively end their decline and recover their international position.[53] The 2012 defense policy shift from Europe

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[49] Gilpin, *War and Change in World Politics*, 192.
[50] Gilpin, *War and Change in World Politics*, 192-3.
[51] Gilpin, *War and Change in World Politics*, 194.
[52] Layne, "China's Challenge to US Hegemony," 18.
[53] Paul K. MacDonald and Joseph M. Parent, "Graceful Decline: The Surprising Success of Great Power Retrenchment," *International Security* 35, no. 4 (Spring 2011): 10, 15.

to East Asia and the Middle East represents a form of such retrenchment through rebalancing. However, the policy recognizes the US's global roles for peace, stability, and free-flowing commerce through its military influence.[54]

As the guarantor of the current world order and securer of the world's commercial lines of communication, full US retrenchment from major conflict areas could be ruinous to the global economy and potentially spark more violent conflicts. For instance, were Iran allowed to close the straits of Hormuz without the risk of military intervention, global energy prices would soar, thrusting the world into economic recession. Furthermore, no other state possesses the necessary force to prevent such a scenario by itself. The US requires a strategic foundation that balances scarce resources with its global responsibilities by limiting its involvement in lesser conflicts while allowing it to rapidly deploy combat power in defense of the current global order.

Offshore balancing is such strategy. Layne argues offshore balancing's underlying assumption is that the US should only intervene militarily to prevent the emergence of a rival dominant regional power that threatens the current political system.[55] It accepts containment and deterrence as viable options and does not regard failed states as significant vital security threats.[56] As an offshore balancer, the US would rely on regional balance of power politics to check rising regional threats. It would continue to provide material, training, and doctrine support to regional allies to build their capabilities to balance against rising threats. The US would also ensure it has access to regional allied bases. In the event the challenge to security became too great for

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[54] Department of Defense, *Sustaining U.S. Global Leadership*, 2.
[55] Christopher Layne, "Who Lost Iraq and Why it Matters: The Case for Offshore Balancing," *World Policy Journal*, (Fall 2007): 38.
[56] Layne, "Who Lost Iraq and Why it Matters," 46 and Posen, "Stability and Change in US Grand Strategy," 566.

regional allies, the US would then commit rapidly deployable military force to the region to restore the balance of power.

Offshore balancing provides several advantages with regard to future challenges to US security. First, it does not threaten rising powers. Since it is a 'pull-back' strategy, it relies on projecting airpower from the horizon, which reduces any ground foot-print.[57] Second, by shifting the security burden to regional allies, the US allows them to take more responsibility for their own security while it fosters respect for allied interests, building allied integrity.[58] Finally, offshore balancing minimizes US involvement in low-level regional conflicts such as failed or weak militant states. This reduces US ground force involvement, quelling fears of occupation and minimizing the key motivator for terrorism.[59]

The US has historically acted as an offshore balancer. Mearsheimer argues the major US campaigns of the twentieth century, those against Wilhelmine Germany, Imperial Japan, the Third Reich, and actions to contain the spread of communism, exemplified this role.[60] Arguably, Operation DESERT STORM (ODS) also fits into this category. In each of these cases the US allowed regional powers to initially balance against threats. US intervention came only after containment failed and the challengers posed threats to the international system and national security. The US deployed its forces, executed to eliminate the threat, and then redeployed the majority of its forces after hostilities had subsided. In these cases, the nature of the threat necessitated the use of large ground forces to accomplish US objectives. Effective offshore balancing, however, does not always require committing the full spectrum of US combat power.

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[57] Layne, "Offshore Balancing Revisited," 245.

[58] Layne, "Offshore Balancing Revisited," 246.

[59] Pape, *Dying to Win*, 238.

[60] John J. Mearsheimer, *The Tragedy of Great Power Politics* (New York, NY: WW Norton & Company, 2001), 41-2.

Since 1991, the US and its allies have employed several exclusion zones (EZ) over Iraq, Bosnia, Kosovo, and Libya. Commonly referred to as "no-fly" or "no-drive" zones, they executed these operations for a variety of reasons including containment, deterrence, and compellence. In each of these cases, factors such as domestic political will or allied consensus necessitated limited responses to the threat. EZs have become increasingly popular with politicians desiring to signal US engagement while limiting their involvement to guard against potentially costly ground campaigns. Furthermore, airpower's increasing capabilities to expeditiously project power across the globe and influence surface operations make it a tantalizing choice for such operations.[61] Understanding EZs and airpower's capabilities to enforce them is critical to determining their value as limited force options in offshore balancing strategies.

Exclusion Zones and Airpower

The phrase 'no-fly zone' is firmly entrenched in the modern political lexicon. United Nations Security Council Resolution (UNSCR) 1973 permitted member nations to enforce a no-fly zone over Libya to protect civilians against violent attacks.[62] International leaders are entertaining similar options for the ongoing crisis in Syria.[63] However, the term no-fly zone is misleading and requires amendment. In each of the cases listed above, the US and its allies did much more than simply restrict aircraft from operating in these zones. They also attempted to

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[61] Lt Col Jan Marc Jouas, USAF, *No-Fly Zones: An Effective Use of Airpower, or Just a Lot of Noise?* (Cambridge, MA: Weatherhead Center for International Affairs, June 1998), 44.

[62] United Nations Security Council, *Resolution 1973* (17 March 2011), 3.

[63] Elizabeth Bumiller, "US Defense Officials Say Obama Reviewing Military Options in Syria," *The New York Times* (7 March 2012), http://www.nytimes.com/2012/03/08 /world/middleeast/united-states-defense-officials-stress-nonmilitary-options-on-syria.html (accessed 6 May 2012).

restrict surface operations in accordance with specific political and military objectives.

Lt Gen David Deptula argues the term EZ is more appropriate. In an unpublished paper, he describes an aerial exclusion zone (AEZ) as, "an area in which a target nation's sovereignty has been temporarily expropriated with the goal of producing certain policy decisions by the target state's leaders."[64] Discussion of exclusion zones in current doctrine is limited. Echoing Deptula's description, Joint Publication (JP) 3-0 defines an exclusion zone as, "A zone established by a sanctioning body to prohibit specific activities in a specific geographic area in order to persuade nations or groups to modify their behavior to meet the desires of the sanctioning body or face continued imposition of sanctions, or the use or threat of force."[65] Listed under military engagement, security cooperation, and deterrence operations, JP 3-0 defines exclusion zones in terms of efforts to hinder a nation's air, maritime, and land-based operations for varying political objectives.[66] It goes no further. While USAF doctrine mentions exclusion zones with regard to contingency and crisis response in engagement, security cooperation, and deterrence operations, it provides no meaningful discussion of airpower's roles in such operations.[67] Even USAF counter-air doctrine only mentions no-fly zones in the introduction, with no further discussion of either no-fly or aerial exclusion operations.[68] With such little to pull from in established doctrine, we must turn to other sources for a framework of analysis.

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[64] Brig Gen David Deptula, *Air Exclusion Zones: Powerful Tools to Advance US Interests in the New International Environment*, unpublished paper (2000), in William M. Tart, *No Fly Zones: Costs, Benefits, and Conditions* (Maxwell AFB, AL: School of Advanced Airpower Studies, 2001), 11.

[65] Joint Publication (JP) 3-0, *Joint Operations*, 11 August 2011, GL-9.

[66] JP 3-0, *Joint Operations*, V-13.

[67] Air Force Doctrine Document (AFDD) 2, *Operations and Organization*, 3 April 2007, 23-5.

[68] AFDD 3-01, *Counterair Operations*, Interim Change 2, 1 Nov 2011, iv.

Alexander Benard provides a useful framework for understanding airpower-based EZ operations. Though he uses the phrase 'no-fly zone,' he includes surface exclusion operations through airpower as part of his discussion. Benard divides exclusion operations into three separate categories: air cover, air deterrent, and air occupation operations. Air cover involves providing aerial protection and assistance to troops in hostile situations which require ground force presence. Air deterrent operations attempt to create a buffer between hostile and friendly forces to deter aggression.[69] Benard reiterates airpower's ability to shift rapidly from deterrent to preventive operations in the form of strikes to compel an enemy that challenges the exclusion zone.[70] Finally, Benard defines air occupations as the use of airpower to restrict a nation's air, land, and sea forces without friendly ground force involvement.[71] Deptula warns against the perception of an air occupation as able to hold ground with the legal and moral responsibilities inherent in ground occupation operations. He writes, "Use of the term, AEZ (aerial exclusion zone), reinforces the idea that enforcement aircraft only occupy airspace, not a nation's territory. And yet, by operating within this airspace, aerospace forces alone can, to a degree, control the surface without occupying it."[72] In a March 2012 interview, he reinforced his views that AEZs cannot occupy disputed ground, but can exert varying levels of control over surface forces. He further stated that such control has significantly improved over the past few decades with advancements in airpower's core capabilities.[73]

Colin Gray has similar ideas. In *The Airpower Advantage in Future War* he writes: "The US asymmetric advantage in airpower must be

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[69] Alexander Benard, "Lessons from Iraq and Bosnia on the Theory and Practice of No-fly Zones," *Journal of Strategic Studies* 27, no. 3 (September 2004): 456.

[70] Benard, "Lessons from Iraq and Bosnia," 458.

[71] Benard, "Lessons from Iraq and Bosnia," 456.

[72] Deptula, *Air Exclusion Zones*, in Tart, *No Fly Zones*,11.

[73] Lt Gen David A. Deptula, USAF (ret), interview 28 March 2012.

exploited to the maximum."[74] He asserts airpower's specific advantages in modern warfare coupled with America's lead and preference for high-technology solutions should drive us to develop and use airpower to its fullest.[75] He also acknowledges the US must develop appropriate strategies for airpower's use tailored to its individual strengths and weaknesses.[76] Airpower's unique capabilities of ubiquity, speed, range, and lethality provide the foundation of EZ operations by allowing the US to effectively project power across vast distances quickly and influence all other warfare domains.

All of this suggests that land and sea forces face increasing challenges from airpower.[77] Lt Col Craig Wills argues the use of precision guided munitions (PGM) has revolutionized airpower's lethality.[78] US PGM employment has risen from roughly 9% of all weapons employed in ODS, to 68% in OIF.[79] Similarly, US PGM development pervades air-to-surface employment today, allowing US airpower to engage multiple types of targets in virtually all weather conditions. Modern precision airpower prevents adversary forces from massing without considerable risk of destruction.[80] Coupled with improvements in ISR, survivability, speed, and range, Wills contends airpower has become the dominant force in modern conventional warfare.[81] These capabilities reduce the requirement for large ground forces, allowing the US to bring maximum combat power to bear without

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[74] Colin S. Gray, *The Airpower Advantage in Future Warfare: The Need for Strategy*, Research Paper 2007-2 (Maxwell AFB, AL: Airpower Research Institute, December 2007), viii.

[75] Gray, *The Airpower Advantage in Future Warfare*, 31.

[76] Gray, *The Airpower Advantage in Future Warfare*, 34.

[77] Gray, *The Airpower Advantage in Future Warfare*, 11.

[78] Lt Col Craig D. Wills, USAF, *Airpower, Afghanistan, and the Future of Warfare: An Alternative View*, The Cadre Papers No.25 (Wright Patterson AFB, OH: Air Force Institute of Technology, November 2006), 10.

[79] Wills, *Airpower, Afghanistan, and the Future of Warfare*,11.

[80] Deptula, interview 28 March 2012.

[81] Wills, *Airpower, Afghanistan, and the Future of Warfare*,12.

the costs in blood and treasure associated with large ground force operations.

Faced with rising challengers, debilitating deficits, and waning international prestige, the US should adopt an offshore balancing strategy. By relying on airpower to influence threats to the international order, the US can manage rising powers, minimize its economic and military over reach, and help restore American credibility abroad. Offshore balancing is not retrenchment; it is a reasonable response to the world around us.

Chapter 2

Airpower and Offshore Balancing

"But there's another way for the bloodshed to stop. And that is for the Iraqi military and the Iraqi people to take matters into their own hands -- to force Saddam Hussein, the dictator, to step aside, and to comply with the United Nations resolutions and then rejoin the family of peace-loving nations."

President George H.W. Bush, 15 February 1991

On 15 February 1991, with just two weeks remaining in the first Gulf War, President George H.W. Bush implored the people of Iraq to take matters into their own hands, rise up, and remove Saddam Hussein from power.[1] While he later admitted his intent was not to partition Iraq, to the Kurds and Shiites in northern and southern Iraq respectively, this statement combined with the Iraqi army's impending defeat drove many into action.[2] In March 1991, immediately following the war, Kurdish populations in northern Iraq rebelled against the dictator, seizing several towns from disorganized Iraqi troops. In response, the Iraqi army launched a successful counter offensive, quickly retook lost ground, and began a ruthless extermination campaign using helicopters with napalm and chemical attacks.[3] By 2 April 1991, Iraq aggression resulted in an estimated 1 million Kurdish refugees with approximately 1,000 deaths per day.[4] Like their Kurdish counterparts, the majority Shiite population in southern Iraq, persecuted relentlessly by the regime, rebelled after the

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[1] George H.W. Bush, Remarks to the American Association for the Advancement of Science, 15 Feb 1991 (George Bush Presidential Library and Museum), http://bushlibrary.tamu.edu/research/public_papers.php?id=2709&year=1991&month=2 (accessed 20 Mar 2012).

[2] George H.W. Bush, Remarks to Air War College at Maxwell AFB, AL, 13 April 1991, http://bushlibrary.tamu.edu/research/public_papers.php?id=2869&year=1991&month=4 (accessed 20 Mar 2012).

[3] GlobalSecurity, "Operation Provide Comfort," http://www.globalsecurity.org/military/ops/provide_comfort.htm (accessed 14 Mar 2012).

[4] GlobalSecurity, "Operation Provide Comfort."

war. And similar to the north, overwhelming Iraqi ground and air power crushed the rebellion resulting in mass civilian casualties.[5] The nearly twelve-year exclusion operation begun in northern Iraq in 1991 started as a humanitarian effort to end the bloodshed against Iraqi Kurds.

ONW and OSW offer unique case studies as US airpower-based offshore balancing actions as they included all three forms of Benard's EZs. The purpose of this chapter is to examine them as airpower-based offshore balancing operations and assess their utility for achieving strategic objectives. Though ONW and OSW were distinct operations executed through separate military command chains, this paper will consider them together in an attempt to provide a coherent assessment of offshore balancing and EZ operations against former Iraqi dictator Saddam Hussein. It will begin with a brief historical overview. It will then provide strategic and operational assessments of the operations' effectiveness. Finally, it will discuss the value of ONW and OSW as compared to OIF.

Northern Iraq

In response to reports of brutal Iraqi attacks on the Kurds, the United Nations Security Council (UNSC) passed UNSCRs 687 and 688 on 3 and 5 April respectively. UNSCR 687 reaffirmed the requirement for assurances of Iraq's peaceful intentions in the wake of the Kuwaiti invasion, while 688 condemned Hussein's actions against his people, asked for international assistance for the Kurds, and directed Iraq to cooperate with relief efforts.[6] In response, President Bush authorized Operation PROVIDE COMFORT (OPC), a multinational peacekeeping effort designed to secure Kurdish populations and allow for their return

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[5] William M. Tart, *No Fly Zones: Costs, Benefits, and Conditions* (Maxwell AFB, AL: School of Advanced Airpower Studies, 2001), 66.
[6] GlobalSecurity, "Operation Provide Comfort."

to their homes.[7] Under OPC, coalition forces established a no-fly zone north of the 36th parallel and deployed approximately 20,000 ground troops to secure the population, deliver much needed supplies, and rebuild critical infrastructure.[8] By September 1991, OPC and its follow-on, Operation PROVIDE COMFORT II (OPCII) had delivered some 17,000 tons of supplies, restored 70-80% of the Kurdish villages destroyed by the Iraqis, and allowed nearly 500,000 refugees to return to their villages.[9]

OPC ended on 24 July 1991, giving way to OPCII. Shifting from a primarily humanitarian focus, coalition forces stationed limited ground forces in Turkey and maintained the no-fly zone in an air deterrent posture designed to provide a buffer zone between Iraq and its northern neighbors.[10] Over the next five years, limited hostilities continued between Iraq and the majority US and United Kingdom (UK) forces patrolling the northern no-fly zone. From January to August 1993, engagements between the Iraqi air defense system and coalition aircraft resulted in attacks against Iraqi anti-aircraft artillery (AAA), surface-to-air missile (SAM) sites, and one Iraqi MIG-25 interceptor destroyed with no coalition losses.[11] Tensions between Kurdish and Iraqi ground forces continued throughout the period, largely unaffected by no-fly zone activities, culminating in renewed Iraqi aggression in late 1996 with attacks on Irbil. In response, President Clinton authorized Operation DESERT STRIKE, expanding the southern no-fly zone to the 33rd parallel and authorizing cruise missile strikes against targets in southern Iraq.[12]

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[7] Alexander Benard, "Lessons from Iraq and Bosnia on the Theory and Practice of No-fly Zones," *Journal of Strategic Studies* 27, no. 3 (September 2004): 463.

[8] GlobalSecurity, "Operation Provide Comfort" and Benard, "Lessons from Iraq and Bosnia ," 464.

[9] GlobalSecurity, "Operation Provide Comfort" and Tart, *No Fly Zones*, 32.

[10] Tart, *No Fly Zones*, 32.

[11] GlobalSecurity, "Operation Provide Comfort II," http://www.globalsecurity.org/ military/ops/provide_comfort_2.htm (accessed 14 Mar 2012).

[12] Tart, *No Fly Zones*, 36.

During OPC and OPCII, coalition aircraft conducted approximately 62,000 sorties over northern Iraq, with the US accounting for 42,000 of the total.[13] Displeased with the effort's inability to counter Iraqi ground aggression, France withdrew from northern no-fly zone operations and Turkey suspended OPCII in favor of further limited operations.[14]

ONW took OPCII's place on 1 January 1997 and continued until OIF in March 2003. Like OPCII, ONW was primarily an air deterrent operation designed to contain Iraqi aggression and ensure compliance with UNSCRs, albeit with a reduced military footprint.[15] The northern no-fly zone covered approximately 17,000 square miles of Iraqi territory (see Figure 1).[16]

Figure 1. ONW and OSW No-Fly Zones

Source: GlobalSecurity, "Operation Southern Watch," http://www .globalsecurity.org/ military/ops/ southern_watch.htm (accessed 11 January 2012).

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[13] GlobalSecurity, "Operation Provide Comfort II."

[14] Tart, *No Fly Zones*, 38-9.

[15] Benard, "Lessons from Iraq and Bosnia ,"464.

[16] Todd Harrison and Zack Cooper, *Selected Options and Costs for a No-Fly Zone over Libya* (Washington, DC: Center for Strategic and Budgetary Assessments, March 2011), 2.

US and UK aircraft patrolled this area an average of eighteen days per month, coming under fire on nearly every mission, primarily from Iraqi AAA.[17]

Hostilities between Iraq and the coalition peaked during this period. Iraqi intransigence over UN weapons inspections in 1998 twice led to US military buildups. In both cases, Hussein backed down and allowed weapons inspectors back into the country.[18] In late 1998, the coalition executed Operation DESERT FOX, a four-day strike operation designed to punish Iraq for weapons violations. After DESERT FOX, Hussein announced he would no longer recognize the no-fly zones and continued to challenge coalition aircraft until the end of ONW. The most intense combat operations occurred from June 1998 to June 1999 involving 5,000 sorties, 485 weapons, and 225 targets. ONW ended on 17 March 2003, after nearly 36,000 sorties and thousands of strikes against Iraqi targets.[19]

Taken as a whole, the coalition's northern exclusion zones included both air cover (OPC) and air deterrent operations (OPCII and ONW). Furthermore, the coalition resorted to multiple punitive and preventive strikes designed to contain Iraqi aggression and reinforce UNSCRs calling for immediate disarmament. While assessments of the operations' success are varied, analysis of total EZ effects against Iraq must include OSW as well.

Southern Iraq

Citing UNSCR 688, President Bush authorized OSW on 26 August 1992, establishing a no-fly zone south of the 32nd parallel and allowing for coalition surveillance operations to ensure Iraq's compliance with the

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[17] GlobalSecurity, "Operation Northern Watch," http://www.globalsecurity.org/ military/ops/northern_watch.htm (accessed 14 March 2012).
[18] Benard, "Lessons from Iraq and Bosnia ," 468.
[19] GlobalSecurity, "Operation Northern Watch."

resolution.[20] Furthermore, after Operation DESERT STRIKE, the US and UK extended the zone to the 33rd parallel, just south of Baghdad. To this extent, the OSW exclusion zone covered almost 88,000 square miles of southern Iraq and kept coalition airpower within easy striking distance of the capital (see Figure 1).[21]

As in the north, Saddam Hussein continually challenged the UNSCRs levied against him and the OSW exclusion zone. In January 1993, the coalition (primarily the US, UK, and France) struck southern Iraqi air defense nodes in response to no-fly zone violations and threats to coalition aircraft.[22] After a significant drawdown of coalition force presence in early 1994, Hussein tested their resolve by deploying Iraqi troops to the Kuwaiti border in October 1994.[23] Under Operation VIGILANT WARRIOR, the coalition responded with rapid deployments of additional air and ground force units to deter or defend against Iraqi aggression. The UNSC also passed UNSCR 949 on 15 October 1994, ordering the withdrawal of Iraqi forces south of the 32nd parallel and forbidding Iraq from threatening its neighbors or UN forces.[24] Facing overwhelming force, Hussein withdrew his ground forces to the north. Additionally, Operations DESERT STRIKE and DESERT FOX brought significant increases in coalition airstrikes against targets in southern Iraq. Though an exact OSW yearly strike average is difficult to ascertain due to inconsistencies in reporting, a conservative estimate places it at 34 to 38 per year throughout the operation. This excludes an average of 31 strikes per month in the last three months prior to OIF. By early

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[20] GlobalSecurity, "Operation Southern Watch."
[21] Harrison and Cooper, *Selected Options and Costs for a No-Fly Zone*, 2.
[22] Lt Col Merrick Krause, *Modern Air Occupation Strategy, Case Study: Operation Southern Watch* (Washington, DC: National Defense University, 25 March 2001), 7.
[23] GlobalSecurity, "Operation Southern Watch."
[24] GlobalSecurity, "Operation Southern Watch."

2001, coalition aircraft had entered the OSW EZ 153,000 times with 500 engagements by Iraqi air defenses without the loss of a single pilot.[25]

To this day, the EZs over Iraq remain the longest running, large-scale US operations in history. For many young airmen during the period, ONW and OSW were all they knew of combat operations. As the operations progressed, significant debate ensued over their value, coalition objectives, and their ability to achieve those objectives. As an example of offshore balancing, ONW and OSW provide valuable lessons on the value of airpower-based EZ operations.

Strategic Assessment

The northern EZ's initial purpose was to secure the Kurdish population, end the bloodshed, and allow for the Kurds to return to their homes.[26] In just over seven weeks, nearly half a million Kurds returned home.[27] Additionally, the majority of Kurdish villages were rebuilt, while others were given temporary lodging facilities. Airpower enabled these efforts through humanitarian lift and by providing security through regular air-to-air, air-to-ground, and command and control (C2) patrols.[28] However, by Aug 1996, the infrastructure that enabled such a successful air cover operation had ceased to exist, enabling Iraqi forces to invade Kurdish zones in the north and restarting the bloodshed. Some highlight this as a critical failure of the operation.[29] Similarly, others criticize OSW for its inability to protect Shiite populations from Iraqi ground force attacks.[30]

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[25] GlobalSecurity, "Operation Southern Watch."

[26] GlobalSecurity, "Operation Provide Comfort."

[27] Tart, *No Fly Zones*, 32.

[28] GlobalSecurity, "Operation Provide Comfort."

[29] Benard, "Lessons from Iraq and Bosnia ," 468.

[30] James Cockayne and David Malone, "Creeping Unilateralism: How Operation Provide Comfort and the No-Fly Zones in 1991 and 1992 Paved the Way for the Iraq Crisis of 2003," *Security Dialogue* 37, no. 123 (March 2006): 132-3.

Critics also contend that the EZs were unable to coerce Iraqi dictator Saddam Hussein to allow UN weapons inspectors back into the country to verify Iraq's elimination of its weapons of mass destruction (WMD) programs. Benard claims that despite vigorous EZ enforcement and numerous strikes against Iraqi, there is no evidence these operations ever compelled Hussein to accept inspections. He asserts Iraq only acquiesced to inspections with the threat of imminent war in 2002.[31] However, upon closer inspection, the EZ's were handicapped by differences within the alliance and changing policy goals.

Turkey resisted military operations in the northern EZ early on due to concerns over the Kurds. The Turks opposed the flood of Kurdish refugees into eastern Turkey and the possibility of an emerging Kurdish state.[32] The Turks benefitted from Iraqi control over the Kurds in this manner. Iraq was also a major trading partner before the war and Turkey desired to restart commerce after hostilities. Finally, the Turks considered Iraq to be the major threat in that region and feared antagonizing a regime known for employing weapons of mass destruction.[33] Thus, Turkey leveled restrictions on military flight scheduling, weapons employment, and release authority, preventing the US from engaging Iraqi targets on several occasions. With the US reliant on Turkish bases for their operations, it had little choice but to adhere to the restrictions. [34] Additionally, as the 36th parallel limit only covered approximately half of Kurdish territory, a significant portion of the Kurdish population to continued threats from the Iraqi regime.[35]

The coalition also received little support for OSW from Iraq's Arab neighbors. For many Arab nations, the lack of US willingness to hold Israel accountable for UNSCR violations, the absence of US intervention

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[31] Benard, "Lessons from Iraq and Bosnia ," 469.
[32] Tart, *No Fly Zones*, 41-2.
[33] Jouas, *No Fly Zones*, 28.
[34] Tart, *No Fly Zones*, 41-2.
[35] Tart, 3 *No Fly Zones*, 2.

to stop Muslim deaths in Bosnia, disfavor with foreign troops on their soil, and the view that Iraq was not a great threat led to reduced support for aggressive action.[36] Saudi Arabia only allowed US support aircraft to use its bases, leaving Kuwait as the sole remaining nation to allow for strikes from its bases.[37]

Internal coalition support also waned as the operational goals of the EZ forces expanded. From OPC's initial humanitarian objectives, US missions expanded to include containment, deterrence, coercion, and monitoring.[38] Increases in air strike frequency, disagreements over targeting, and no-fly zone expansion led France to reduce its involvement.[39] Such mission creep led to fractures in the coalition, weakening its resolve and empowering Hussein to challenge the exclusion zones.

Lastly, changing policy forced modifications to US objectives. As Iraqi intransigence continued and allied and domestic support diminished, the US became increasingly wary of committing resources against the regime. The Clinton administration became increasingly reliant on cruise missile attacks to punish the Iraqi regime for EZ violations. These attacks were ineffective at stopping Iraqi ground aggression or compelling Saddam to allow for weapons inspections. Jouas argues this illustrates the inability of limited force to accomplish more than limited objectives.[40] Furthermore, without clear objectives and appropriate physical and diplomatic means to help end the conflict, EZs can become the ends rather than the means. In this case, the nation risks "perpetual patrol" whereby the EZ continues without

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[36] Jouas, *No Fly Zones*, 36.
[37] Jouas, *No Fly Zones*, 37-8.
[38] Tart, *No Fly Zones*, 53.
[39] Cockayne and Malone, "Creeping Unilateralism," 130.
[40] Jouas, *No Fly Zones*, 31.

cessation, placing tremendous burdens on military forces.[41] He contends the Iraqi EZs were largely ineffective after 1996 due to these reasons.[42]

Despite these issues, ONW and OSW were, in fact, successful. After the 1996 Iraqi invasion, US Defense Secretary William Perry stated that America's vital interest with Iraq involved the containment of Iraqi aggression against their neighbors, with a primary focus to the south.[43] In this manner, the EZs acted as a buffer between Iraq and its neighbors, providing an airpower-based deterrent to check Iraqi aggression. Coalition force was able to deter Iraqi aggression, as is evident with the Iraqi force deployment and subsequent withdrawal from the Kuwaiti border in 1994. There is also evidence that continued coalition presence and strike operations along with sporadic inspections coerced Hussein to give up his WMD programs. Despite touting his WMD capability to quell minority uprisings and deter Iran, Hussein had actually disposed of his WMD stockpiles by 1998.[44] In short, from a strategic perspective, the EZs worked—they caged Saddam in, stabilized and secured the region, and ensured the free flow of oil, which ultimately shored-up the global economy.

John Tirpak contends ONW and OSW also strengthened regional alliances through standardized procedure development in air traffic control, operational planning, exercises, and training. He argues these benefits extended beyond coalition nations to include other Gulf Cooperation Council nations.[45] These ties bolster allied military development, increasing their ability to balance against future regional threats without significant US intervention. Furthermore, allied base

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[41] Benard, "Lessons from Iraq and Bosnia ," 460.

[42] Benard, "Lessons from Iraq and Bosnia ," 467

[43] Jouas, *No Fly Zones*, 32.

[44] Michael R. Gordon and Gen Benard E. Trainor, *Cobra II: The Inside Story of the Invasion and Occupation of Iraq* (New York, NY: Pantheon, 2006), 64-5.

[45] John A. Tirpak, "Legacy of the Air Blockades," *Air Force Magazine* 86, no. 2 (February 2003): 48.

development and access to these bases increases US capabilities to rapidly deploy force to deal with future threats should the need arise.

ONW and OSW provided the US with opportunities to shape events in a strategically vital region with a limited amount of force. Given the region's strategic importance due to its vast energy reserves, these operations provided a measure of stability in a turbulent environment.[46] By reducing Iraq's military power versus its neighbors and checking aggression, the coalition was able to support the free flow of energy resources from the Persian Gulf and rebalance the Middle East's military posture.

Finally, the US was able to accomplish its deterrent goal with a reduced military footprint. According to Krause, an exclusion zone is "less invasive and requires less commitment in material, personnel, and national will" than ground operations.[47] Such operations allow the US to achieve limited national security objectives while simultaneously minimizing views of the US as an 'interventionist power.' Pape and Kilcullen's analysis illustrated how US military force presence in foreign is a primary motivator for terrorism and insurgent activity. While the attack on Khobar Towers in 1996 highlights this persistent anti-US sentiment, larger US force deployments would have most certainly increased the risk of violent attacks.

Operational Assessment

Major William Tart asserts EZs cede the operational initiative to the enemy. He argues the enemy has the upper hand by understanding limitations to US ROE and through the ability to choose the time and place of engagement. Thus, success in EZ operations "depends on outstanding reactive tactical execution rather than coherent offensive

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[46] Tart, *No Fly Zones*, 34, 68.
[47] Krause, *Modern Air Occupation Strategy*, 2.

planning."[48] Achieving this level of execution requires quickly integrating multiple systems to find, identify, and engage threats to the EZ. ONW and OSW provided the coalition with the opportunity to hone these critical skills.

For the US, ONW and OSW became a key test bed for new ideas and weapons designed to engage threats quickly and with improved certainty of destruction. The operation saw the first use of the AGM-130 PGM.[49] This weapon provided immediate bomb damage assessment to EZ forces allowing the mission commander to make real time re-attack decisions.[50] Similarly, the operation also debuted the AIM-120 air-to-air missile and GBU-15 2,000 lbs PGM, further increasing US precision engagement capability.[51] Integrated ISR, air superiority, and strike operations provided US forces with much needed large force and package commander experience building combat effectiveness and training future commanders in a combat environment.[52]

The operations also provided valuable training and experience for US airpower C2 structures. Air operations center (AOC) members had the opportunity to plan and execute nearly all facets of US airpower during the EZs. Some lessons were learned the hard way as the US Army Black Hawk helicopter shoot down by USAF F-15Cs in 1994 illustrates. Though tragic, this event provided valuable lessons in air tasking order, identification, and rules of engagement (ROE) processes.[53]

ROE evolved to increase EZ effectiveness as the operations progressed. Early on, poorly written ROE prevented airpower from influencing Iraqi forces to enable a successful air cover operation.

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[48] Tart, *No Fly* Zones, 53.
[49] Brig Gen David A. Deptula, USAF, "Operation Northern Watch Update 27 Sep 1999," a briefing presented to multiple organizations, unpublished, 27 September 1999.
[50] Tart, *No Fly* Zones, 44.
[51] Deptula, "Operation Northern Watch Update 27 Sep 1999."
[52] Tart, *No Fly* Zones, 46.
[53] Tart, *No Fly* Zones, 45.

Agreements made at Safwan at the end of the Gulf War originally allowed the Iraqis to conduct helicopter flights in the exclusion zones.[54] The Iraqis took advantage of this mistake to conduct napalm and chemical weapon attacks on the Kurds and Shiites. The coalition remedied this error shortly thereafter. As the OPCII and ONW replaced OPC and the mission changed to air deterrence, ROE changed to only allow pilots to engage Iraqi targets after they had been fired upon.[55] Early ROE required extensive procedures to request authorization to engage EZ threats. Initiatives to push engagement authority down to the lowest possible levels greatly increased airpower's ability to counter challenges to the EZ.[56]

Iraq's flat, open terrain contributed greatly to airpower's effectiveness in air occupation operations. The lack of sufficient terrain to mask ground force movements aided airpower's ability to monitor, track, and target Iraqi forces, preventing them from accomplishing surprise attacks. As discussed later, these conditions did not exist during OAF.

Immediately after Operation DESERT FOX in 1998, Iraqi challenges to the EZ and coalition strikes in response greatly increased in number. In the early months of 1999 the coalition responded to an average of three and four threats per week in ONW and OSW respectively.[57] Though weakened dramatically from its pre-ODS strength, the Iraqi military still possessed significant numbers of forces capable of challenging the EZ. Coalition deterrent and occupation operations continued to reduce Iraqi military capacity with effective airpower combat operations. In ONW alone, coalition airpower destroyed an estimated 140 anti-aircraft artillery pieces and almost fifty surface-to-

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[54] Jouas, *No-Fly Zones*, 5.
[55] Benard, "Lessons from Iraq and Bosnia ," 465.
[56] Deptula, interview 28 March 2012.
[57] GlobalSecurity, "Operation Northern Watch" and "Operation Southern Watch."

air missile (SAM) system components.[58] By the end of 1999, coalition EZ forces had reduced the kill chain to just seven minutes from threat to engagement.[59]

Conclusions

ONW and OSW were not without faults. Coalition forces faced critical challenges that detracted from their ability to achieve certain objectives. Allied policy differences and changing US policy inhibited EZ forces from continuing to provide effective air cover for Kurdish and Shiite groups in Iraq. Mission creep further strained alliance integrity and weakened coalition legitimacy in the face of their adversary. Additionally, ill-defined end-states risked perpetual patrol, a condition only truly remedied by the start of OIF in 2003.

However, the value of the EZs was that they allowed the US and its allies to contain Iraqi aggression through conventional or WMD forces, preventing Hussein from threatening his neighbors and ensuring the flow of regional energy resources.[60] In accordance with offshore balancing strategies, the coalition accomplished this by building allied military capacity through standardized training, planning, and execution, with minimal force presence, at significantly reduced cost as compared to full spectrum military operations. Also, the US was able to rapidly deploy additional forces to the region in response to increased aggression in 1994, yet withdraw them as the crisis subsided. During these operations, Iraq never truly threatened its neighbors or the flow of critical energy resources from the Persian Gulf.

In a recent interview, Deptula admitted the US achieved such containment somewhat by accident. He claims that many in 1991, himself included, would not have agreed it was a viable option,

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[58] Deptula, "Operation Northern Watch Update 27 Sep 1999."
[59] Deptula, interview 28 March 2012.
[60] Jouas, *No Fly Zones*, 60.

advocating instead for forcefully removing Hussein from power. In light of OIF, he calls for strategic foresight to assess the value of containment over regime change.[61]

Most importantly perhaps, ONW and OSW cost the government little. The costs to operate the EZs remained at a relatively stable average of $1.3 billion per year, minus the $2.14 billion spent in FY 1998 due to increased activity leading up to Operation DESERT FOX.[62] In total, the US spent just over $12 billion in EZ operations 1991 to 2003.[63] Additionally, the US never had a single combat death or combat related aircraft loss during the operations.

As of the end of US combat operations in Iraq in FY 2012, the government appropriated approximately $824 billion for OIF.[64] As of December 2011, total US casualties in Iraq numbered 4,803 dead and 32,200 wounded. The projected total cost of Iraq veterans' healthcare and disability is between $422 billion and $717 billion.[65] The immense difference between the costs of EZs and ground occupation operations alone requires the US to consider the benefits of containment over regime change. Additionally, the debate over whether or not Iraq is better off now than it was before OIF will rage for decades.

Finally, the current conflict with Iran should influence the perceived value of containment over regime change with regard to regional stability. Before OIF, Iraq and Iran were the two most powerful nations in the Middle East. As enemies, these nations effectively balanced each other, preventing either from gaining regional hegemony

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[61] Deptula, interview 28 March 2012.

[62] Harrison and Cooper, *Selected Options and Costs for a No-Fly Zone*, 3.

[63] Tirpak, "Legacy of the Air Blockades," 50.

[64] Amy Belasco, *The Cost of Iraq, Afghanistan, and Other Global War on Terror Operations Since 9/11* (Washington, DC: Congressional Research Service, March 29, 2011), 1.

[65] Matthew Duss and Peter Juul, *Update: The Iraq War Ledger; A Look at the War's Human, Financial, and Strategic Costs* (Washington, DC: Center for American Progress, December 2011), 2.

and maintaining a measure of stability. With Iraq out of the equation, Iran now possesses the most powerful military force in the region. With increasing Iranian provocations, the US now faces a potentially more difficult challenge in balancing against Iranian aggression in this globally important region.

Chapter 3

Airpower and Offshore Balancing Redux

"Rest assured, this is a feeling that is uplifting all of Yugoslavia. All of Yugoslavia is with you. The issue isn't that it's a problem for Yugoslavia, but Yugoslavia and Kosovo. Yugoslavia doesn't exist without Kosovo! Yugoslavia would disintegrate without Kosovo! Yugoslavia and Serbia will never give up Kosovo!"

Serb President Slobodan Milosevic, Kosovo Polje, 24 April 1987

This chapter analyzes OAF from the perspective of offshore balancing. It begins with a brief overview of the conflict from the passage of UNSCRs to its termination in June 1999. It will then provide a strategic assessment of the operation focusing on planning, alliance issues, and gradualism. It will analyze OAF's major operational challenges including suppression of enemy air defenses (SEAD), targeting ground forces, and airpower support. The chapter will conclude with an examination of the resources required to counter the Serb threat and its implications for potential future, more modern threats.

The Conflict

Violence between Serb and KLA forces escalated in February 1998, initiating an iterative cycle of diplomacy and violence that would continue until OAF.[1] UNSCR 1160, issued on 31 March 1998, condemned the use of force by Serb military and police forces and the KLA.[2] After Serb actions forced 30,000 Kosovar civilians from their homes in fall 1998, the UN passed UNSCR 1199, calling for an immediate cease fire, dialogue, the withdrawal of Serb forces, international monitoring in Kosovo, and the return of all refugees.[3]

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[1] GlobalSecurity, "Operation Allied Force," http://www.globalsecurity.org/ military/ops/allied_force.htm (accessed 7 March 2012).

[2] Dag Henriksen, *NATO's Gamble: Combining Diplomacy and Airpower in the Kosovo Crisis, 1998-1999* (Annapolis, MD: Naval Institute Press, 2007), 132.

[3] Henriksen, *NATO's Gamble,* 149.

Despite repeated diplomatic warnings from the US and other NATO nations, Milosevic continued to use force, resulting in increasing casualties and refugees. Following the 15 January 1999 slaughter of 45 Kosovar civilians in the village of Racak, the North Atlantic Council (NAC) approved the use of NATO airstrikes against Serbia if Milosevic refused to restart negotiations.[4] The Rambouillet talks, held outside Paris from 6 February to 23 February 1999, ended without an agreement. During the talks Milosevic obstinately initiated an ethnic cleansing campaign named Operation Horseshoe involving 40,000 Serb army (VJ) and interior ministry police (MUP) forces.[5] By mid-March 1999, the conflict had generated over 300,000 refugees with no perceivable end in sight. After a final diplomatic bid to end the conflict on 22 March failed, NATO began OAF at 1900 GMT on 24 March 1999. [6]

According to a DOD post-war report to Congress, NATO's three primary objectives during OAF were to ensure the stability of Eastern Europe, end the ethnic cleansing, and ensure NATO's continued credibility.[7] To these ends, NATO embarked on a historically unique military campaign, using airpower as the predominant form of force in a major theater operation for the first time.[8] Two distinct factors contributed to NATO's decision. First, political considerations led NATO leadership to effectively rule out offensive ground force operations.[9] Second, Dag Henriksen argues during Operation DENY FLIGHT (ODF) over Bosnia in 1995 led to assumptions that Milosevic would only

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[4] Benjamin S. Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment* (Arlington, VA: RAND Corporation, 2001), 8.

[5] Lambeth, *NATO's Air War for Kosovo*, 9.

[6] GlobalSecurity, "Operation Allied Force."

[7] US Department of Defense, *Kosovo/Operation Allied Force After-Action Report*, Report to Congress (Washington, DC: Department of Defense, 31 January 2000), Opening Message, 1.

[8] Henriksen, *NATO's Gamble*, ix.

[9] Lambeth, *NATO's Air War for Kosovo*, 12.

respond to force and airpower alone could achieve the desired political goals.[10]

NATO had accomplished limited planning for air strikes prior to the conflict. Operation NIMBLE LION, designed by USAF Europe, called for substantial strikes throughout the former Yugoslavia from the start.[11] Contingency plan (CONPLAN) 10601, developed by NATO and approved by the NAC, called for limited strikes with escalating intensity in a phased approach.[12] CONPLAN 10601 would eventually become the basis for OAF, but the lingering differences in approach between the US and other NATO nations would complicate the operation throughout its duration.

Eventually, NATO planners agreed upon a three phase air campaign plan to achieve their objectives. Phase one would include air strikes and combat air patrols (CAP) against the Serb integrated air defense system (IADS) in order to gain air superiority and establish a no-fly zone south of the 44th parallel.[13] Phase two involved air strikes against military and security forces south of the 44th parallel to degrade Serb ground forces in Kosovo and their reinforcements.[14] Finally, phase three would expand attacks to the whole of the former Yugoslavia, attacking high-value military targets throughout the state.[15] Though NATO had agreed on this framework, most allied leaders did not believe the war would last long. At most, some thought a few weeks of bombing would coerce Milosevic, but many thought it would only take days.[16] Given this assumption, little planning was put into the details the air campaign's strategy post Phase one. With no concrete war strategy

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[10] Henriksen, *NATO's Gamble*, 109.

[11] Lambeth, *NATO's Air War for Kosovo*, 11.

[12] Lambeth, *NATO's Air War for Kosovo*, 11.

[13] Henriksen, *NATO's Gamble*, 13.

[14] GlobalSecurity, "Operation Allied Force."

[15] Henriksen, *NATO's Gamble*, 13.

[16] Henriksen, *NATO's Gamble*, 3-4.

including force levels, targeting plans, or political objectives, Henriksen contends NATO began OAF wholly unprepared for the task they faced.[17]

The environment confronting NATO forces in OAF differed significantly from that in ONW and OSW. The theater covered approximately 39,000 square miles, an area smaller than the state of Kentucky. Figure 2 illustrates the OAF operational area.

Figure 2. Operation ALLIED FORCE Area of Operations

Source: Lambeth, NATO's Air War for Kosovo, 13.

Packed into this small state was a formidable IADS including sixty Soviet-made SAM batteries with nearly 1,000 missiles, countless man-portable SAMS, and 1,850 AAA pieces. The Serb air force maintained 240 combat aircraft with 75 fighter interceptors including the MiG-29 and MiG-21. Though much of their equipment was fifteen years old or

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[17] Henriksen, *NATO's Gamble*, 4.

greater, Lambeth argues Serb IADS operators understood NATO tactics and were well-prepared to defend their territory.[18]

The air war began on the night of 24 March 1999 with cruise missile and fixed wing attacks against the Serb IADS, communications and military power facilities, and several other ground force targets throughout Kosovo.[19] SAM operators launched few missiles that night and the Serbs lost four fighters in defensive counter air operations with no allied losses.[20] NATO escalated attacks for the next two days, striking more IADS targets, airfields, military barracks, and downing two more Serb fighters. However, despite these attacks, Milosevic accelerated Operation Horseshoe, burning villages, executing captured KLA troops, and driving more Kosovars from their homes.[21] By late spring 1999, an estimated 1.4 million refugees had either fled Kosovo or were internally displaced from their homes.[22]

By the end of the third day, NATO leaders realized Milosevic would not capitulate as easily as they had thought. After over eight hours of deliberations, they authorized Phase two, expanding the target list and adding five B-1 aircraft to the available forces.[23] Thus on 24 April 1999, the NAC authorized NATO forces to conduct strikes against Serb targets north of the 44th parallel.[24] For the remainder of the war, NATO gradually escalated attacks against Serb forces and infrastructure, while continuing diplomatic efforts and debating the use of ground forces to end the conflict. The 24 April authorization expanded the target list from 169 to 976, including critical Serb infrastructure targets such as the

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[18] Benjamin S. Lambeth, *The Transformation of American Airpower*, (Ithaca, NY: Cornell University Press, 2000), 182-3.

[19] Lambeth, *NATO's Air War for Kosovo*, 21.

[20] Lambeth, *NATO's Air War for Kosovo*, 22-3.

[21] Lambeth, *NATO's Air War for Kosovo*, 24-6.

[22] Andrew Cottey, "The Kosovo War in Perspective," *International* Affairs 85, no. 3 (2009): 597.

[23] Lambeth, *NATO's Air War for Kosovo*, 25-7.

[24] GlobalSecurity, "Operation Allied Force."

Serb electrical grid. Additionally, attacks on oil refineries, bridges, civilian communications, and factories increased the hardship on the Serb population and the civilian elite backing Milosevic's presidency. [25] Also by late spring and early summer, airpower's effectiveness against Serb ground forces had improved dramatically.[26]

By late May 1999, several factors combined to bring the conflict to termination. First, despite Milosevic's deliberate attempts to weaken NATO's resolve, the coalition had maintained its resolve to see the conflict to its end. With relative air superiority, NATO's ability to attack targets virtually at will was severely degrading Serb infrastructure throughout the state with little sign the bombing would end.[27] Milosevic's last vestige of international support faded with Russian envoy Viktor Chernomyrdin's 2 June request for Milosevic to end the conflict and accept NATO's terms.[28] Finally, continued Serb atrocities led to serious discussion of a NATO ground force deployment. The possibility of a large NATO multi-axis ground invasion no doubt influenced Milosevic to agree to negotiations.[29]

OAF came to a close on 9 June 1999 with the signing of an agreement between NATO and Serbia, ending the air campaign and allowing Serb forces ten days to withdraw from Kosovo ahead of an international force charged with Kosovo's administration.[30] By war's end, OAF had lasted 78 days, involved 38,000 sorties by nearly 1,000 allied aircraft, and 23,300 strike missions against 7,600 fixed and 3,400 flex targets.[31] Additionally, NATO lost only two aircraft with no allied

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[25] Lambeth, *NATO's Air War for Kosovo*, 38-40 and GlobalSecurity, "Operation Allied Force."

[26] GlobalSecurity, "Operation Allied Force."

[27] GlobalSecurity, "Operation Allied Force."

[28] Lambeth, *NATO's Air War for Kosovo*, 56.

[29] Lambeth, *NATO's Air War for Kosovo*, 72-4.

[30] Lambeth, *NATO's Air War for Kosovo*, 60.

[31] DOD, *Kosovo/Operation Allied Force After-Action Report*, 78, 87.

combat personnel losses.[32] Assessments of airpower's efficacy in terminating the conflict vary. Shortly after the war, President Clinton declared airpower nearly solely responsible for NATO's eventual success in OAF.[33] Others contend the late threat of ground forces was 'the straw that broke the camel's back' to convince Milosevic to stop fighting.[34] The truth lies somewhere in the middle of those extreme positions.

Strategic Assessment

Shortly after the conflict, Lieutenant General Short, commander of Allied Air Forces in Southern Europe during OAF, decried how NATO airpower should have concentrated its efforts on strategic targets in Serbia from the beginning, rather than extensive operations against Serb troops in the field.[35] He also argued for overwhelming force from the start rather than the gradual escalation employed in OAF.[36] This was NATO's first combat operation against a sovereign nation and the first operation of such magnitude fought predominantly by airpower, and NATO entered the conflict with several strategic shortcomings that had notable effects on its performance.[37] Among these, the lack of strategic planning, alliance operations, and gradualism strategies provide useful insights into airpower's use in coercive operations.

In OAF, NATO began a seventy-eight day air campaign on 24 March 1999 with a three day plan. Based on the faulty assumption Milosevic would capitulate after a quick show of resolve, NATO failed to adequately plan for a long term military confrontation.[38] The coalition's most detailed pre-war plan involved a two-day strike option developed as

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[32] DOD, *Kosovo/Operation Allied Force After-Action Report*, 78.
[33] Henriksen, *NATO's Gamble*, x.
[34] Lambeth, *NATO's Air War for Kosovo*, 60.
[35] Henriksen, *NATO's Gamble*, 56.
[36] Henriksen, *NATO's Gamble*, 56.
[37] Henriksen, *NATO's Gamble*, ix.
[38] Henriksen, *NATO's Gamble*, 4.

the final diplomatic efforts stagnated to demonstrate NATO's resolve and then allow Milosevic to 'contemplate his error.'[39] As the war progressed and Milosevic accelerated ethnic cleansing operations, it became readily apparent NATO had failed to develop an adequate strategy to achieve their objectives.[40]

Absent a coherent strategy for airpower's effective use, NATO gradually escalated attacks with a hope they would work rather than a well thought out plan to achieve them. NATO's lack of strategy and clear political objectives weakened their credibility, a critical component of any coercive use of force.[41] A week into the war, Gen Clark admitted Milosevic would never return to the negotiating table until these issues were addressed.[42] It took until the 23-25 April NATO summit for the coalition to agree upon its campaign objectives.[43]

While it seems plainly obvious NATO should not have begun combat operations without clearly defined objectives and a coherent strategy, OAF illustrates how faulty assumptions and haste can hinder strategy development. Without a clear understanding of Milosevic, the factors that would influence him, and airpower's ability bring about the desired influence, NATO floundered for the first few weeks of the war. However by early May, clearly defined objectives, improved tactics, and strategies designed to exert constant pressure on Milosevic had reversed the tide.

Alliance warfare also posed strategic challenges during OAF. From the beginning, the US and its NATO allies disagreed over certain aspects of the operation. Nations such as Germany, Italy, and Greece repeatedly argued to limit strikes and allow more time for diplomacy.[44] As one of

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[39] DOD, *Kosovo/Operation Allied Force After-Action Report*, 23.
[40] Henriksen, *NATO's Gamble*, 4.
[41] Henriksen, *NATO's Gamble*, 11.
[42] Henriksen, *NATO's Gamble*, 9.
[43] Henriksen, *NATO's Gamble*, 10.
[44] Henriksen, *NATO's Gamble*, 195.

NATO's centers of gravity for OAF, maintaining coalition cohesion was paramount to the campaign. Henriksen argues that perceived rifts in NATO's cohesion led Milosevic drove his unwillingness to negotiate through the belief the campaign would last no more than a week.[45]

NATO's C2 structure also reflected the differences of opinion among US and NATO leadership. Figure 3 illustrates the OAF chains of command from January to July 1999.
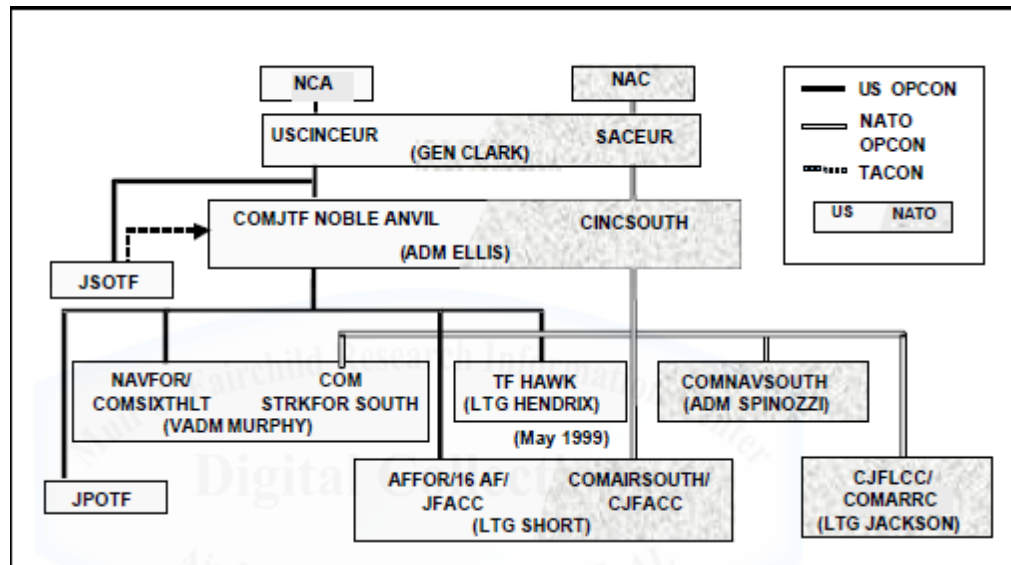
Figure 3. OAF Parallel Command Chains

Source: DOD, *Kosovo/Operation Allied Force After-Action Report*, 20.

Though US and other NATO forces answered to the same military commanders (Gen Clark and Admiral Ellis), under this structure they followed two distinct command chains. Furthermore, Gen Clark answered to both the US NCA and the NAC with respect to the two chains. Lack of consensus on how to execute the war combined with similar forces answering to different masters led Gen Short to describe the C2 structure as "about the most murky command relationship as you could possibly get."[46] Alliance tensions deepened as the US

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[45] Henriksen, *NATO's Gamble*, 195.
[46] Quote by Lt Col L.T. Wight, USAF, in Lambeth, *NATO's Air War for Kosovo*, 207.

conducted strikes under Joint Task Force (JTF) NOBLE ANVIL without prior coordination with its NATO allies.[47]

As the war drew to a close, Admiral Leighton Smith, USN, commented that OAF proved "coalitions aren't good ways to fight wars."[48] However, the DOD's after-action report acknowledged the US could not have done it alone.[49] Without allied support in the form of basing, over flight, personnel, and combat power, the campaign would not have been possible. Like ONW and OSW, OAF demonstrated the necessary evil of coalition warfare in regards to projecting power across vast distances. Throughout the campaign, the coalition would strive to limit alliance differences and maintain cohesion. Perhaps the most divisive issue for airpower professionals was the gradual escalation of force used during the campaign.

According to Lt Gen Short, OAF demonstrated there is "a right way to use airpower."[50] In keeping with the Powell Doctrine, which advocated overwhelming force to quickly subdue an adversary, Short proclaimed NATO should have used airpower forcefully and decisively against Serbia.[51] Instead, OAF followed a pattern of gradual force escalation reminiscent of Vietnam, much to the chagrin of seasoned airpower advocates flush from airpower's achievements in ODS. However, Lambeth argues such gradualism was vitally important to maintaining coalition cohesion.[52] Given the operation's humanitarian nature, contentious debates over targeting, and the unspoken objective to

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[47] Lambeth, *NATO's Air War for Kosovo*, 209.

[48] Quote by Bradley Graham and Dana Priest, "No Way to Fight a War: Hard Lessons of Air Power, Coalitions," *Washington Post*, 6 June 1999 in Lambeth, *NATO's Air War for Kosovo*, 206.

[49] DOD, *Kosovo/Operation Allied Force After-Action Report*, 16.

[50] Henriksen, *NATO's Gamble*, 191.

[51] Henriksen, *NATO's Gamble*, 191.

[52] Lambeth, *NATO's Air War for Kosovo*, 234.

minimize coalition casualties, incremental escalation became the most viable strategy to maintain such cohesion.[53]

In *Arms and Influence,* Thomas Schelling describes escalation in terms of risk. He contends risk strategies coerce an adversary through the anticipation of future damage rather than quick devastation.[54] His assertions run counter to influential author Pape's conclusions on airpower's coercive effectiveness. He claims Schelling's risk strategy is merely a weaker form of punishment, whereby force is used to impose hardship on the population, driving them to end their support for the government.[55] In his opinion, risk and punishment are generally ineffective coercive strategies. Pape argues denial strategies centered on destroying an adversary's military capability to fight are the most effective coercive airpower strategies.[56]

Despite Pape's warning against risk strategies, Lambeth argues gradualism will continue to be an attractive strategy given alliance warfare.[57] Furthermore, he contends airpower's increasing ability to influence surface forces with advances in stealth, target detection and identification, and precision attack may underwrite gradualism in future operations.[58] So long as the US and its allies maintain sufficient capability and credibility throughout their campaign, incremental increases of force may successfully coerce a future adversary without resorting to overwhelming combat power.

Operational Assessment

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[53] Lambeth, *NATO's Air War for Kosovo*, 235-6.
[54] Thomas Schelling, *Arms and Influence* (New Haven, CT: Yale University, 2008), 3.
[55] Robert A. Pape, *Bombing to Win* (Ithaca, NY: Cornell University Press, 1996), 28.
[56] Pape, *Bombing to Win,* 29-31.
[57] Lambeth, *NATO's Air War for Kosovo*, 237.
[58] Lambeth, *NATO's Air War for Kosovo*, 238.

From the perspective of EZ operations, NATO attempted to conduct an air occupation over the AOR to prevent the Serb air force from flying and Serb ground forces from operating effectively in Kosovo. With the former, NATO was extremely successful. However, with the latter, NATO airpower faced significant challenges in preventing Serb ground forces from conducting operations in Kosovo. How NATO forces evolved their operations to meet these challenges provides a window into the use of airpower for air occupation operations. Of these challenges, SEAD, targeting Serb ground forces, and aircraft basing and refueling were the most critical to successful operations during OAF.

Serbia possessed a formidable IADS at the beginning of the conflict. Years of observing NATO tactics, lessons learned from their Iraqi counterparts, and more nuanced SAM tactics posed a considerable threat to NATO air operations.[59] By keeping their high-value IADS systems hidden, moving their systems regularly, and operating their radars sporadically to hamper SEAD efforts, the Serbs maintained a persistent surface-to-air threat throughout the war.[60] In addition, Serbia's mountainous terrain and bad weather hampered NATO attempts to effectively locate and target IADS equipment through destruction of enemy air defense (DEAD) strikes.[61]

NATO SEAD efforts were not a complete failure. Though Serb SAM operators fired similar numbers of missiles as did their Iraqi counterparts during ODS, only two allied aircraft were lost and three more damaged from confirmed ground fire.[62] Persistent SEAD efforts contributed to increased aircraft survivability as compared to previous conflicts. However, the threat forced NATO to devote a significant amount of sorties to the SEAD mission, reducing available aircraft for

[59] Lambeth, *The Transformation of American Airpower*, 182-3.
[60] Lambeth, *The Transformation of American Airpower*, 198.
[61] Lambeth, *NATO's Air War for Kosovo*, 107.
[62] Lambeth, *NATO's Air War for Kosovo*, 108.

strike missions against other targets. OAF SEAD efforts required the deployment of nearly every line USAF F-16CJ, halting training and leaving no such assets for other contingencies. OAF also severely stressed USN EA-6B forces to provide jamming support for the campaign.[63] The threat led NATO leadership to require aircraft to remain above 15,000 feet for most of the campaign, further reducing targeting effectiveness.[64]

For the DOD, OAF provided critical lessons for future SEAD operations. Though the Serb IADS was daunting, it did not represent the state-of-the-art then, and most certainly does not now. OAF highlighted the need to invest in effective SEAD capabilities against modern IADS systems.[65] It illustrated the need for real-time, integrated joint capabilities for SEAD target location and engagement using limited assets with improved airborne persistence.[66] Such capabilities would decrease the number of aircraft required for SEAD missions, allowing for more strikes, while providing increased SEAD coverage throughout the AOR. Finally, the DOD recognized the need for all aircraft to possess effective IADS countermeasures such as stealth or onboard jamming systems to increase survivability in high threat environments.[67]

Many of these same challenges affected NATO's ability to influence VJ and MUP forces as well. Terrain, bad weather, a 15,000 foot hard deck, and effective Serb concealment operations perceptibly reduced NATO's effectiveness against Serb ground forces. Hampered by considerable ROE restrictions including limited authorized targets, a 15,000 foot minimum altitude for allied pilots due to the IADS threat, and limited numbers of strike sorties, escalating NATO attacks accomplished little towards preventing Serb forces from continuing

[63] Lambeth, *NATO's Air War for Kosovo*, 173.
[64] GlobalSecurity, "Operation Allied Force."
[65] DOD, *Kosovo/Operation Allied Force After-Action Report*, 70.
[66] DOD, *Kosovo/Operation Allied Force After-Action Report*, 71.
[67] DOD, *Kosovo/Operation Allied Force After-Action Report*, 71.

ethnic cleansing operations in Kosovo.[68] Lambeth contends by the end of
the air campaign's third week, NATO was unable to confirm the
destruction of a single VJ military vehicle.[69] Furthermore, by the end of
April 1999, OAF commanding officer General Wesley Clark conceded
there were more Serb forces in Kosovo than there had been at the start of
the war.[70]

Dominated by steep mountain ranges and hidden valleys, southern
Serbia and Kosovo provided effective cover for mobile ground forces,
making targeting such forces from the air considerably more difficult. In
addition, spring time cloud cover and fog shielded ground movements
from airborne detection.[71] Hidden among the hills in Kosovo, an area no
larger than Los Angeles, dispersed VJ and MUP forces provided a
significant challenge to NATO airpower with regard to identification and
targeting.

Improvements in the ability of NATO forces to locate mobile ground
forces and distribute targeting information were a critical part of the
solution. Lambeth argues outdated air surveillance doctrine and hastily
designed C2 arrangements prevented allied strike aircraft from receiving
targeting information in a timely manner to effect successful strikes early
in the war.[72] As the campaign progressed, improved procedures for
disseminating time-sensitive intelligence to strike aircraft through the
combined air operations center aided rapid targeting. Moving strike
aircraft from ground alert to airborne tanker-supported patrols also
improved reaction time.[73] The deployment of advanced targeting capable
fighters such as US Marine Corps F/A-18Ds with the Advanced Tactical
Aerial Reconnaissance System (ATARS) contributed to improved

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[68] Lambeth, *NATO's Air War for Kosovo*, 27-30.
[69] Lambeth, *NATO's Air War for Kosovo*, 120.
[70] Lambeth, *NATO's Air War for Kosovo*, 121.
[71] Lambeth, *The Transformation of American Airpower*, 182.
[72] Lambeth, *NATO's Air War for Kosovo*, 123-4.
[73] GlobalSecurity, "Operation Allied Force."

effectiveness.[74] Finally, as spring gave way to summer, reduced cloud cover and changes to ROE allowing pilots to fly below 15,000 feet had a measureable effect on NATO flex targeting.[75]

NATO's attempts to target mobile ground forces suffered through several fits and restarts during OAF. Misidentified targets led to NATO forces attacking civilian vehicles with resulting innocent deaths on at least two occasions during the war.[76] Furthermore, post-war statistics indicated far fewer Serb ground force targets were destroyed than originally assessed during the campaign.[77] However, NATO's efforts did have some effect on Serb ground forces. Persistent air operations maintained constant pressure on Serb forces, preventing them from massing, forcing them to disperse, thus reducing their effectiveness.[78]

The DOD drew several lessons from this experience. First, it saw the need for continued development in joint capabilities, doctrine, and training in flexible, all weather detection, identification, and targeting operations against mobile surface targets. Additionally, OAF highlighted the requirement for effective targeting information distribution systems to reduce the time required to engage these fleeting targets. Lastly, OAF's considerable use of precision guided munitions (PGM) to reduce collateral damage while increasing targeting effectiveness illustrated the need for accurate planning for wartime PGM expenditure rates and sufficient war reserves to accomplish the mission.[79] Lack of weapons would not be the only operational support challenge NATO would face during OAF.

NATO began OAF with nearly 250 aircraft stationed in Europe and the US. By June 1999, NATO airpower had grown considerably to just

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[74] Lambeth, *NATO's Air War for Kosovo*, 127.
[75] GlobalSecurity, "Operation Allied Force."
[76] Lambeth, *NATO's Air War for Kosovo*, 137-8.
[77] Lambeth, *The Transformation of American Airpower*, 196-7.
[78] Lambeth, *NATO's Air War for Kosovo*, 134.
[79] DOD, *Kosovo/Operation Allied Force After-Action Report*, 96.

over 1,000 aircraft based throughout the region.[80] Figure 4 illustrates the multitude of bases US forces operated from throughout the conflict.
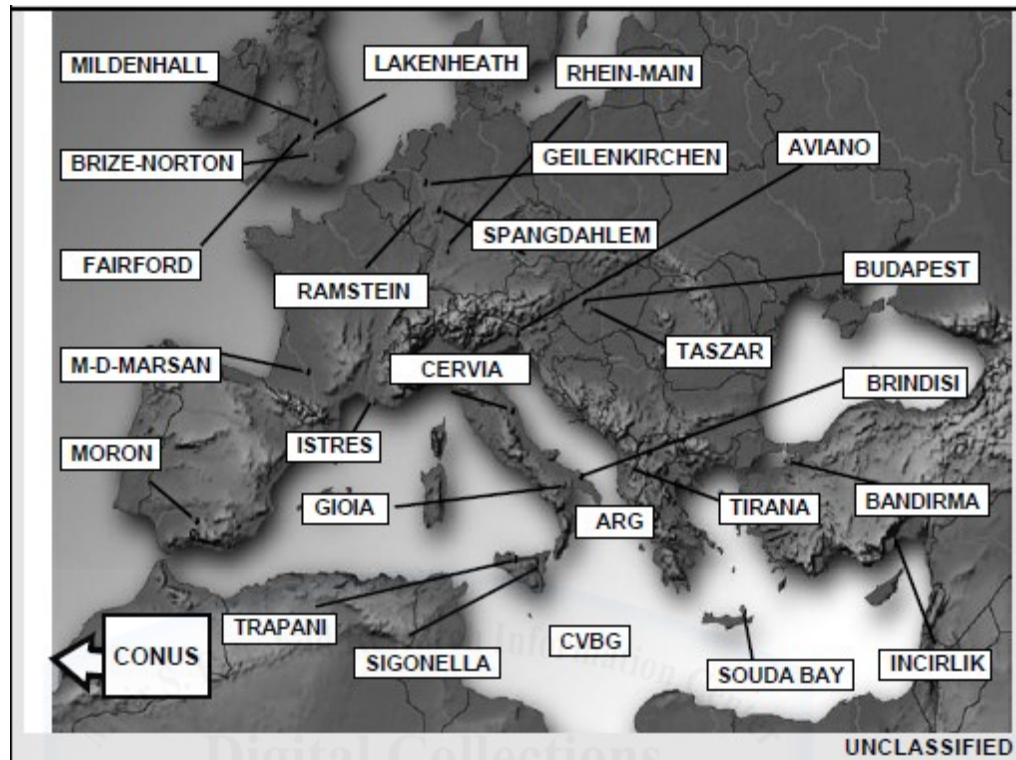
Figure 4. US Operating Bases during OAF

Source: DOD, *Kosovo/Operation Allied Force After-Action Report*, 32.

The lack of sufficient planning for the full scope of the campaign forced NATO leadership to scramble to find adequate basing as they deployed more forces to the region against Milosevic. Ad hoc diplomatic initiatives secured late-game basing authorization in Hungary and Turkey in April. After much debate, the National Command Authority also approved the deployment of the USS *Enterprise* carrier battle group to supplement NATO forces. [81] These issues forced the DOD to reevaluate its criteria for pre-war regional base access, overflight authorizations, and host nation critical base support for future operations.[82]

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[80] DOD, *Kosovo/Operation Allied Force After-Action Report*, 31-3.
[81] Lambeth, *NATO's Air War for Kosovo*, 33-4.
[82] DOD, *Kosovo/Operation Allied Force After-Action Report*, 33.

Aerial refueling support also became a critical linchpin for NATO's airpower operations in OAF. B-2 bombers stationed at Whiteman AFB, Missouri flew thirty-six hour missions from home station to employ ordnance against heavily-defended Serb targets.[83] These missions required extensive aerial refueling support. USAF F-15Es flew nearly eight hours from RAF Lakenheath AB, England, to the AOR, and back to England to conduct strikes.[84] Furthermore, the US Navy and other NATO nations relied heavily on USAF tanker support due to a lack of intrinsic tanker capabilities. The extensive distances traveled by coalition aircraft and the sheer number of those requiring aerial refueling placed considerable strain on NATO aerial refueling forces. Though NATO accomplished its objectives with regard to aerial refueling during OAF, the experience called into question the ability of US tanker forces to meet the demands of future contingency operations.[85]

OAF in Conclusion

At first blush, it might appear that OAF was not an example of off-shore balancing. In fact, however, it is. In response to a grave humanitarian crisis and threat to regional stability, the US and its allies rapidly deployed forces to the AOR, conducted air operations, and then redeployed the majority of those forces once hostilities had ended. Strategically, OAF highlighted the danger of the lack of sufficient planning before hostilities begin. Faulty assumptions and exaggerated expectations almost derailed the campaign. Though an unavoidable aspect of coalition operations, alliance differences will continue to pose a challenge. Furthermore, the US must prepare for tendencies toward gradualism prevalent in alliance operations.

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[83] DOD, *Kosovo/Operation Allied Force After-Action Report*, 33.
[84] Lambeth, *NATO's Air War for Kosovo*, 39.
[85] DOD, *Kosovo/Operation Allied Force After-Action Report*, 33.

Operationally, OAF strained NATO's capabilities to meet the demands placed on it to protect its forces from the Serb IADS, identify and engage Serb ground forces conducting ethnic cleansing operations, and sufficiently base and support its large airpower contingent. OAF highlighted potential challenges to future SEAD operations given reduced forces and a capable threat. As an air occupation, it demonstrated the difficulty of targeting dispersed, well-concealed surface forces in rugged terrain and bad weather. In a recent interview, Deptula reiterated his caution against the traditional notion of airpower's role in 'occupation.' Advocating air control, he asserted that with adequate capability, airpower can exert a measure of control over surface forces.[86] Though limited at the beginning of the conflict, the air campaign's success in targeting some Serb ground forces and preventing them from massing illustrate improved air occupation operations through better capabilities, doctrine, and training. Continual development in these areas has allowed US airpower to become even more capable of influencing surface forces, as evident from OIF, OEF, and Operation UNIFIED PROTECTOR. Finally, the distances and number of aircraft involved show the importance of regional base access and adequate aerial refueling capability.

OAF cost the US government just over $3 billion with two aircraft lost to enemy fire and no allied combat deaths. The US committed 731 aircraft to the operation, withdrawing ISR and aerial refueling assets from ONW to complement its forces. In total, the US committed roughly 40% of its active duty forces to the campaign. Though this was similar to the percentage committed to ODS, the total force was much smaller in 1999 than it had been in 1991.[87] Reductions after the Gulf War cost the USAF half of its fighter wings alone.[88] Additionally, shortages of PGMs

[86] Lt Gen David A. Deptula, USAF (ret), interview 28 March 2012.
[87] Lambeth, *NATO's Air War for Kosovo*, 170-2.
[88] Lambeth, *NATO's Air War for Kosovo*, 170.

forced the USAF to use non-precision weapons for many attacks late in the campaign.[89] Though Serb forces presented challenges, they were by no means a near-peer competitor for the US or NATO. During OAF, NATO had time to learn from its mistakes due to the nature of the threat. Future contingencies may not allow for such learning to occur. Maintaining global security responsibilities, the US must prepare for conflict against a more modern threat than it has faced in the past 30 years. As the US confronts further force reductions and budget cuts, it must also consider what force it requires to effectively employ EZs against such a threat.

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89 Lambeth, *NATO's Air War for Kosovo*, 171.

Chapter 4

The South China Sea

"China has indisputable sovereignty over the islands in the South China Sea and the adjacent waters, and enjoys sovereign rights and jurisdiction over the relevant waters and seabed and subsoil thereof. The above position is consistently held by the Chinese government, and is widely known by the international community."

Letter to the Secretary General of the United Nations from the Permanent Mission of the People's Republic of China, 7 May 2009

"In keeping with the 2002 ASEAN-China Declaration, each of the parties should comply with their commitments to respect freedom of navigation and over-flight in the South China Sea in accordance with international law, to resolve their disputes through peaceful means, without resorting to the threat or use of force. They should exercise self-restraint in the conduct of activities that would complicate or escalate disputes and affect peace and stability."

US Secretary of State Hillary Clinton
Comments during the 2011 ASEAN Regional Forum, August 2011

In Chapters 2 and 3, I discussed the utility of previous EZ operations within the framework of offshore balancing. Chapter 2 illustrated the value of threat containment using EZs against an intransigent adversary. Chapter 3 examined the challenges of successfully conducting an air occupation operation within alliance constraints and against a capable adversary. In Chapters 4 and 5, I will further project this line of thinking to examine how the US could employ offshore balancing and EZs against a modern potential threat.

This chapter examines offshore balancing in the context of the SCS. It provides recommendations on strategic actions necessary to build regional allied capacity to balance against a rising China. First, I examine the SCS's geopolitical significance and sources of conflict.

Then I discuss some specific challenges to effective offshore balancing in the region. I conclude with recommendations for building offshore balancing capacity through regional military strength, training, and international support for action should conflict arise.

The South China Sea

In order to get a sense of scope, it is important to understand the geo-strategic importance of this area. The SCS is a semi-enclosed sea stretching 1500 nautical miles (nm) from the Straits of Taiwan and Luzon Strait in the northeast to the Strait of Malacca in the southwest. At its widest point, it stretches 840 nm from the Philippines to Hainan Island (China) and covers approximately 1.3 million square miles. Nine states or parties surround the sea including China, Taiwan, Vietnam, Philippines, Malaysia, Brunei, Singapore, Thailand, and Cambodia.[1] Figure 5 illustrates the SCS.

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[1] Robert T. Nelson, CDR, US Navy, *Strategic and Operational Implications of Access to the South China Sea to Maintain Regional Peace and Security* (Newport, RI: Naval War College: 16 May 2003), 2.

Figure 5. The South China Sea.

Source: Felix K. Chang, "China's Naval Rise and the South China Sea: An Operational Assessment," Orbis 56, no. 1 (January 2012): 20.

Though much of it is open expanse, it includes more than 200 small islands, reefs, and rocks, many of which are partially submerged and not suitable for habitation. The majority of these bodies form the Paracel and Spratly Island chains in the northern and eastern regions of the sea respectively. As it is encircled by land, the various straits surrounding the sea form natural choke points for the major shipping lanes that crisscross the region.[2]

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[2] Chris Rahman and Martin Tsamenyi, "A Strategic Perspective on Security and Naval Issues in the South China Sea," *Ocean Development and International Law* 41 no. 4 (2010): 316-7.

The SCS's strategic importance lies first in its function as a major global shipping route. It is a vital energy highway from Middle East oil-producing states to Asian consumers.[3] Japan, South Korea, and Taiwan each obtain 80% of their energy needs in this manner.[4] Similarly, China receives up to 90% of its energy imports (over 50% of its total energy consumption) from SCS transport.[5] The most important SLOC in the SCS is the Strait of Malacca. Approximately 70,000 merchant vessels transited this narrow passage in 2008, with an estimated 114,000 vessels per year by 2020.[6] All told, the SCS accounts for approximately half of the world's merchant fleet shipping.[7]

The SCS holds an abundance of natural resources. Many of the surrounding nations rely on SCS fish resources for critical food stocks and economic well-being. SCS fishing accounts for more than 10% of the global catch and employs some 10 million people, while an estimated 100 million people rely on this industry for their livelihood.[8] Recent explorations also indicate the potential for large hydrocarbon deposits beneath the seabed.[9] As the demand for energy from the region's rapidly industrializing nations increases, so too will competition for access to these critical resources.[10] Currently, international agreements meant to mediate such competition are inadequate to the task.

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[3] Jacob Bercovitch and Mikio Oishi, *International Conflict in the Asia-Pacific: Patterns, Consequences, and Management*, (New York, NY: Routledge, 2010), 103.

[4] Rahman and Tsamenyi, "A Strategic Perspective on Security and Naval Issues in the South China Sea," 317.

[5] Rahman and Tsamenyi, "A Strategic Perspective on Security and Naval Issues in the South China Sea," 317.

[6] Sheldon W. Simon, "Safety and Security in the Malacca Strait: The Limits of Collaboration," *Asian Security* 7, no. 1 (2011): 27.

[7] Rahman and Tsamenyi, "A Strategic Perspective on Security and Naval Issues in the South China Sea," 317.

[8] Rahman and Tsamenyi, "A Strategic Perspective on Security and Naval Issues in the South China Sea," 319.

[9] Patrick M. Cronin et al., *Cooperation from Strength: The United States, China, and the South China Sea* (Washington, DC: Center for a New American Security, January 2012), 9.

[10] Bercovitch and Oishi, *International Conflict in the Asia-Pacific*, 103.

In 1982, the UN passed the UN Convention on the Laws of the Sea (UNCLOS) in an effort to establish international principles for claims to living and non-living resources adjacent to a nation's shores. According to the convention, a state may claim an Economic Exclusion Zone (EEZ) in surrounding waters up to 200 nm from their shores. Additionally, it provides guidelines on the status of land formations located on a continental shelf extending from national shores.[11] The majority of the SCS covers a vast continental shelf extending from China, along the shores of Vietnam, to the Philippines, Malaysia, and Brunei. Thus, several nations use UNCLOS provisions as the basis for their claims to SCS resources. Many nations also base further claims on historical documents or precedents. Attempts to lay claim to various portions of the SCS, such as the UN Commission on the Limits of the Continental Shelf (CLCS) submitted by Malaysia and Vietnam in 2009, have only inflamed tensions.[12] Figure 6 illustrates the overlap in regional rights claims in the SCS.

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[11] Bercovitch and Oishi, *International Conflict in the Asia-Pacific*, 105.

[12] Nien-Tsu Alfred Hu, "South China Sea: Troubled Waters or a Sea of Opportunity," *Ocean Development & International Law* 41 (2010): 203.
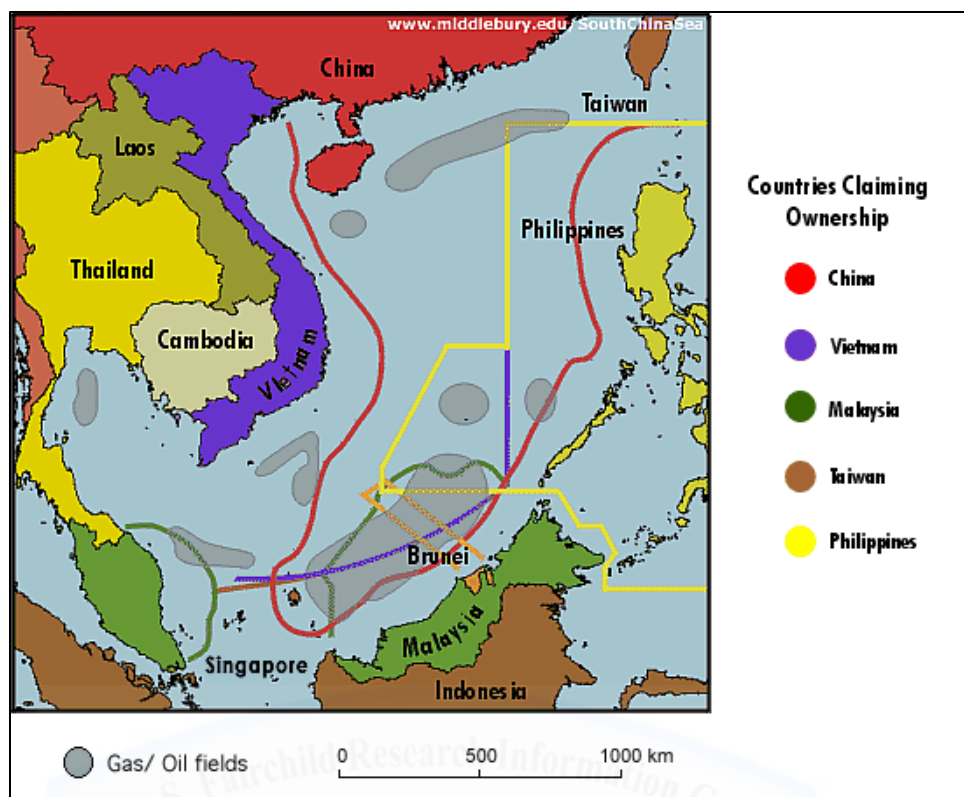
Figure 6. SCS National Claims.

Source: Energy Information Administration (EIA), "South China Sea," (Washington, DC: US Department of Energy, March 2008), 3.

China, by far, has the most extensive claims outside the UNCLOS EEZ provisions. Based on historical usage dating back to the Han Dynasty from 206 B.C. to 220 C.E., China claims rights to the majority of the SCS, to include the entire Paracel and Spratly Island chains.[13] Though it struggles diplomatically due to its unique position, Taiwan also maintains vast SCS claims. Recent Taiwanese statements display their intent to defend those claims.[14] Like China, Vietnam bases its claims on historical documentation, while Malaysia, Brunei, and the Philippines rely upon the UNCLOS continental shelf principles.[15] Without regional

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[13] Nelson, *Strategic and Operational Implications of Access to the South China Sea*, 4.

[14] Robert Sutter and Chin-Hao Huang, "China-Southeast Asia Relations: Managing Rising Tensions in the South China Sea," *Comparative Connections* 13, no. 2 (September 2011): 71.

[15] Bercovitch and Oishi, *International Conflict in the Asia-Pacific,*103.

and international resolution to these overlapping claims, conflict continues among regional nations. On some occasions, regional states have resorted to military force to enforce such claims.

The most violent uses of force occurred between China and Vietnam in 1974 and 1988. Eighteen Vietnamese soldiers died in 1974 when China seized the Paracel Islands from South Vietnam.[16] Chinese and Vietnamese naval vessels clashed in 1988 in the Spratly Islands, resulting in several Vietnamese ships sunk and seventy Vietnamese deaths.[17] Again in 2007, Chinese naval vessels fired on a Vietnamese boat, killing one and injuring several others. More limited, but nonetheless violent, encounters between other regional nations occurred with regular frequency until the signing of Declaration of Conduct between the Association of Southeast Asian Nations (ASEAN) and China in 2002.[18] Since that time, conflict continues, however, without military action. Most recently, Philippines and Chinese vessels engaged in a multi-day standoff over fishing rights around a disputed shoal.[19]

The US has traditionally favored a diplomatic role in SCS by reiterating the need for multilateral dialogue, "freedom of navigation, open access to Asia's maritime commons, and respect for international law in the SCS."[20] The US position that the UNCLOS should arbitrate SCS disputes directly conflicts with several nations' positions, most notably, Chinese claims.[21] The Chinese deplore US involvement in such

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[16] Felix K. Chang, "China's Naval Rise and the South China Sea: An Operational Assessment," *Orbis* 56, no. 1 (January 2012): 20.

[17] Chang, "China's Naval Rise and the South China Sea," 20, and EIA, "South China Sea," 5.

[18] Bercovitch and Oishi, *International Conflict in the Asia-Pacific*, 104. For a list of violent conflict in the SCS from 1974 to 2002, see EIA, "South China Sea," 5-6.

[19] James Hookway, "Chinese Fishing Boats Leave Standoff Scene," *Wall Street Journal* (15 April 2012), http://online.wsj.com/article/SB100014240527023043566045773 42932073194586.html (accessed 15 April 2012).

[20] US Secretary of State Hillary Clinton, quoted in Sheldon Simon, "US-Southeast Asia Relations: Deep in South China Sea Diplomacy" *Comparative Connections* 13, no. 2 (September 2011): 56.

[21] Simon, "US-Southeast Asia Relations," 56.

regional affairs as unnecessary and complicating.[22] On occasion, they have gone so far as to declare the SCS off-limits to foreign naval forces in accordance with their interpretation of the EEZ.[23] While the US does not maintain a significant presence in the SCS, its forces routinely transit and operate there. Such operations have resulted in direct conflict with Chinese forces.

On 1 April 2001, an intercepting Chinese J-8 fighter collided with a US Navy EP-3 reconnaissance aircraft during a routine patrol over the SCS. The collision forced the EP-3 to make an emergency landing on Hainan Island.[24] Then on 7 March 2009, five Chinese naval vessels harassed the US ocean surveillance ship USNS *Impeccable*, attempting to stop the ship and ensnare the *Impeccable's* towed sensor array.[25] The harassment ended when the US Navy deployed the destroyer USS *Chung-Hoon* to escort the *Impeccable*.[26] While the US continues to pursue diplomatic initiatives to reinforce peace and stability in the SCS, then Secretary of Defense Robert Gates reiterated to his Chinese counterparts our determination to strengthen US presence in the region in June 2011.[27]

The US has an interest in maintaining freedom of navigation, unrestricted access, and respect for international law in the SCS. With its extensive claims and growing power, China could present a significant threat to these principles. Under current fiscal constraints, the US cannot afford to maintain a large force presence in the SCS to balance against Chinese power and deter aggression. Acting as an offshore

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[22] Simon, "US-Southeast Asia Relations," 57.

[23] Rahman and Tsamenyi, , "A Strategic Perspective on Security and Naval Issues in the South China Sea," 324.

[24] Nelson, *Strategic and Operational Implications of Access to the South China Sea*, 1.

[25] Rahman and Tsamenyi, , "A Strategic Perspective on Security and Naval Issues in the South China Sea," 326.

[26] Rahman and Tsamenyi, , "A Strategic Perspective on Security and Naval Issues in the South China Sea," 328.

[27] Simon, "US-Southeast Asia Relations," 57.

balancer, the US would prefer to rely on regional allies to provide such a
balance.

Challenges to Offshore Balancing

The backbone of China's South Sea fleet consists of LUYANG class
destroyers, each capable of defending itself against modern air and
seaborne threats. Additionally, the South Sea Fleet operates various
attack submarines armed with a formidable array of torpedoes and anti-
ship missiles. China's new naval base at Yalong Bay on Hainan Island
has the capacity to support major operations in the SCS.[28] China
continues to augment its airpower with the deployment of modern Su-
30MKK fighters, capable of maintaining combat air patrols (CAP) and
conducting precision strikes in the region.[29] Furthermore, the inclusion
of H-6D bombers modified for aerial refueling will enhance China's ability
to project combat airpower throughout the SCS.[30] Finally, as China's
new aircraft carrier enters service, it will provide the means to sustain air
combat operations without long flights from the mainland.[31]

In stark contrast, other regional states lack significant capability to
counter the threat. Suffering economically for several decades after the
war with the US, Vietnam capitalized on market reforms from 1990 to
2003 to become one of the fastest growing economies in the world until
the global economic recession starting in 2007.[32] Starting in 2000,
Vietnam made concerted efforts to modernize its military forces. In
2009, it increased its defense budget by 70%, supplementing its small
force of frigates, corvettes, and Su-27 and Su-30 MK2V fighters with six

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[28] Chang, "China's Naval Rise and the South China Sea," 24-5.

[29] Chang, "China's Naval Rise and the South China Sea," 29.

[30] Chang, "China's Naval Rise and the South China Sea," 23.

[31] Chang, "China's Naval Rise and the South China Sea," 31.

[32] US Department of State, Bureau of East Asian and Pacific Affairs, "Background Note: Vietnam," http://www.state.gov/r/pa/ei/bgn/4130.htm, 5 January 2012 (accessed 30 April 2012), and "Vietnam Economy" *Economy Watch*, http://www.economywatch.com /world_economy/vietnam/, 18 March 2010 (accessed 16 May 2012).

additional diesel-electric submarines and twenty upgraded Su-30 MK2V fighters.[33] Still, Vietnam has a difficult time maintaining and training its military forces on a relatively scant defense budget amounting to $2.4 billion annually.[34]

Malaysia has also embarked on modernization efforts, though slowly due to the Asian financial crisis in the early 2000s. It maintains a small force of frigates, submarines, patrol boats, and Su-30 MKM fighters.[35] While these forces are strategically based for rapid deployment in the SCS, they would be severely tasked to counter Chinese aggression. Though it is involved in regular incidents with Chinese vessels in the SCS, the Philippines has the weakest military force in the region. Suffering from internal strife consuming most of its security resources, the country currently operates no jet fighters and maintains a small force of Vietnam-era cutters.[36] The Philippines has increased its requests for foreign military sales from the US in recent years to include modern fighters and anti-ship missile capable ships. However, serious concerns exist over its ability to train, equip, and maintain such forces due to budgetary constraints.[37]

China understands well each nation's capabilities and constraints and plays off these limitations to its benefit. Although China engages in multilateral dialogue such as the 2002 Declaration of Conduct and various regional forums, it prefers to use bilateral dialogue to maximize its leverage against SCS states.[38] In bilateral negotiations with Vietnam and the Philippines, China agreed to conduct joint oil exploration surveys in the SCS in 2003 and 2005 as a confidence building measure toward

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[33] Chang, "China's Naval Rise and the South China Sea," 27.
[34] Chang, "China's Naval Rise and the South China Sea," 33.
[35] Chang, "China's Naval Rise and the South China Sea," 27.
[36] Simon, "US-Southeast Asia Relations," 58.
[37] Chang, "China's Naval Rise and the South China Sea," 35.
[38] Bercovitch and Oishi, *International Conflict in the Asia-Pacific*, 109.

reduced tensions.[39] However, it continues to hold unwaveringly to its sovereignty claims in other venues, reluctant to discuss the matter during multilateral discussions.[40] Individually, each regional nation would be unable to meet China on equal ground should it become more assertive of its claims. As an organization, ASEAN currently lacks the capacity for a unified response to a considerable threat.

Bercovitch and Oishi assert ASEAN has developed a rather successful management model for conflicts arising among member states.[41] By de-linking SCS territorial disputes from other cooperative issues, the association has brokered several economic and regional conduct Sino-ASEAN agreements in the past twenty years. However, these agreements have failed to produce multilateral solutions to the underlying tensions among regional neighbors. Sheldon Simon expresses doubt as to whether the US can rely on ASEAN to lead multilateral security negotiations.[42] Though the organization is slated to become a full-fledged politico-security, economic, and human rights community in 2015, it continues to battle internal disputes over SCS islands, human rights violations, and border conflicts.[43] Even if ASEAN develops organized security protocols, it will be many years before it can tackle the challenge from a modern regional threat.

Given the vast disparity in national power between China and other nations and the lack of a functioning regional security bloc, the US faces daunting challenges in relying on regional allies to balance against China. According to Patrick Cronin and Robert Kaplan, the US should pursue a strategy of "cooperative primacy" with regards to the SCS.[44] Not to be confused with Posen's description of primacy in chapter 1, they

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[39] Bercovitch and Oishi, *International Conflict in the Asia-Pacific*, 110-1.

[40] Bercovitch and Oishi, *International Conflict in the Asia-Pacific*, 114.

[41] Bercovitch and Oishi, *International Conflict in the Asia-Pacific*, 102.

[42] Simon, "US-Southeast Asia Relations," 62.

[43] Simon, "US-Southeast Asia Relations," 61-2.

[44] Cronin et al., *Cooperation from Strength*, 6.

advocate shepherding regional allies to allow them to share the burden while backing their capabilities with credible US combat power.[45] In essence, they are calling for offshore balancing. The US must undertake considerable effort to build regional military power, unite security agendas, and develop international consensus in order to effectively employ offshore balancing in the SCS.

Building Balancing Capacity

Building regional balancing capacity begins with supporting regional allies in the development of intrinsic military capabilities. As a first step, the US should support and permit the sale of advanced military equipment to SCS nations to the maximum extent possible. Though Vietnam has modernized portions of its forces, it falls short in force protection capability. Felix Chang recommends they acquire more modern surface-to-air missile capabilities such as Russia's S-300PMU.[46] The US should encourage and support such initiatives ensure Vietnam maintains combat capability. Similarly, the US could offer Indonesia more advanced aircraft to replace its aging fleet of F-16A/B fighters.[47] The US should continue to assist Philippine modernization efforts such as coastal defenses, airborne early warning, and naval capabilities.[48] However, limited defense budgets hamper modernization efforts for many regional nations. Increases in Philippine spending in 2010 brought the total defense budget to just $931 million for fiscal years 2011-2016, when the cost of a single modern US destroyer exceeds $2 billion.[49] The US must augment modernization support with effective combined training exercises to maximize regional defense capabilities and unite security agendas.

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[45] Cronin et al., *Cooperation from Strength*, 10.
[46] Chang, "China's Naval Rise and the South China Sea," 33.
[47] Chang, "China's Naval Rise and the South China Sea," 32.
[48] Chang, "China's Naval Rise and the South China Sea," 34-5.
[49] Cronin et al., *Cooperation from Strength*, 104.

In 1995, US Pacific Command (USPACOM) inaugurated the Cooperation Afloat Readiness and Training (CARAT) exercise to provide combined training in maritime interdiction.[50] During this annual exercise, US naval, marine, and coast guard units train with like elements from the Philippines, Malaysia, Thailand, Indonesia, Singapore, and Brunei.[51] Participating forces practice a range of skills to include surface-to-air gunnery, undersea warfare, and various logistics operations.[52] The Southeast Asian Cooperation against Terrorism (SEACAT) exercise, inaugurated in 2002, provides critical maritime terrorism and transnational crime training.[53] Both exercises remain bilateral annual events. The US has also worked to build stronger bonds with Vietnam, conducting a bilateral noncombatant evacuation exercise and signing a military medicine and research agreement with the nation in 2011.[54] Finally, post-9/11 security initiatives such as the Proliferation Security Initiative (PSI) and Regional Maritime Security Initiative (RMSI) provide a foundation for regional engagement.[55]

Building upon this foundation, the US must engage states in the AOR in discussions beyond piracy, terrorism, and crime threats. It must first work to settle internal ASEAN territorial disputes in the SCS. The US should use its influence to modify exercises or create new venues to train for combined responses to modern threats. Additionally, it should advocate multilateral rather than bilateral exercises to build regional cohesion and exercise critical multinational C2 structures. Finally, the US should continue to engage regional nations on possible Chinese threats, reassuring them of US support to maintaining open SLOCs and

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[50] Cronin et al., *Cooperation from Strength*, 105.

[51] Sheldon Simon, "The United States, Japan, and Australia: Security linkages to Southeast Asia," paper for *The New Security Environment – Implications for American Security* Conference (Washington, DC: National Defense University, 4-5 April 2011), 12.

[52] Cronin et al., *Cooperation from Strength*, 105.

[53] Simon, "The US, Japan, and Australia," 12.

[54] Simon, "US-Southeast Asia Relations," 62.

[55] Simon, "The US, Japan, and Australia," 3.

attempting to secure vital operational and logistical support should hostilities commence.

The US must guard against restrictive treaties that may force its hand during disputes. In a June 2011 meeting, US and Philippine representatives discussed their interpretations of the1951 Mutual Defense Treaty between the two nations. Throughout the discussion, the US confirmed its commitment to protect freedom of navigation rather than take sides in territorial disputes.[56] The US must also avoid provoking intense Chinese opposition to regional capacity building. In 2004, USPACOM initiatives to organize patrols in the Strait of Malacca under the RMSI invoked harsh Chinese criticism limiting US involvement.[57] The US will have to balance coalition capacity building with Chinese fears of counterbalancing to minimize such responses.

Finally, the US must involve other international partners to build legitimacy and support should conflict occur. By focusing on global economic repercussions to conflict in the SCS, the US can draw international support to deter or counter aggression.[58] Singapore's economic well-being relies on the flow of goods through the Strait of Malacca and across the SCS. As one of the wealthiest nations in the region, Singapore has the most modern military forces and is a critical security partner for the US.[59] Similarly, Australia's economy relies heavily on SCS trade routes. In recent years, it has engaged in bilateral security dialogues with Indonesia, the Philippines, Vietnam, and Thailand.[60] Japan and South Korea's economies would also suffer greatly from restricted energy flows in the SCS. As trade is the "currency

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56 Simon, "US-Southeast Asia Relations," 58-9.
57 Cronin et al., *Cooperation from Strength*, 111.
58 Cronin et al., *Cooperation from Strength*, 6.
59 Chang, "China's Naval Rise and the South China Sea," 27.
60 Simon, "The US, Japan, and Australia," 6.

of the realm in Asia," the US must leverage the possible effects of SCS conflict on global trade to build international consensus for action.[61]

Conclusion

In 1996, Felix Chang wrote of Chinese intentions in the SCS, "Until Chinese leaders are convinced that either their forces are strong enough to prevail or their adversaries' forces are too weak to resist, they will continue to refrain from committing their forces to a full-fledged assault."[62] In January 2012, he asserted that while conditions are similar today, the military balance has shifted dramatically in favor of the Chinese since that time.[63] As China's economic and military strength continues to grow relative to its neighbors, it could attempt to secure its territorial claims and enforce jurisdiction in the SCS. Should China decide to do so, it would bring considerably more combat power to the fight than its neighbors. Even with regional capacity building measures, this would necessitate US involvement to restore the balance of power and secure SCS SLOCs. The following chapter pursues this line of reasoning with an examination of potential EZ operations in the SCS.

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[61] Cronin et al., *Cooperation from Strength*, 17.
[62] Felix K. Chang, "Beijing's Reach in the South China Sea," *Orbis* 40, no. 3 (Summer 1996): 374.
[63] Chang, "China's Naval Rise and the South China Sea," 38.

Chapter 5

The South China Sea Exclusion Zone

This chapter provides an operational assessment of EZ operations in the SCS and highlights critical airpower capabilities necessary to operate in a modern threat environment. I will begin with a discussion of EZ development to include purpose and scope. Next, I will examine the threat in terms of potential Chinese actions and key threat capabilities. I will then discuss airpower roles and capabilities and make pertinent recommendations for US airpower acquisitions to ensure the US can effectively project power against modern, advanced threats. The argument advanced here is: even though the US could employ an EZ in the South China Sea, the costs of doing so—given limited resources and capabilities—would be severe.

To contain this line of reasoning, I make the following assumptions. First, I assume that the Chinese will attempt to enforce territorial claims, restrict foreign naval vessels from operating in the SCS, and control commercial traffic. Second, regional powers will be unable to counter Chinese aggression and will request support from the US with over flight, basing rights, critical logistical support, and defensive military operations to secure their own territory. I further assume that a limited conflict will not escalate beyond the SCS. While escalation in a crisis such as this is a concern, I abstract it away for the purposes of dealing with the difficulties of devising a workable EZ. Lastly, along those lines, I assume that the Chinese will not use conventional ballistic missiles (BM) against neighboring nations' military facilities during the conflict. Though the Chinese possess considerable numbers of precision conventional BMs, attacking foreign sovereign territory would lead to escalation. Finally, without a UNSCR due to the Chinese position on the UN Security Council, I assume some international support due to the detrimental effects on global commerce from Chinese military action.

China has previously attempted to apply security restrictions to its vast SCS EEZ claims in direct violation of the UNCLOS.[1] Should the Chinese threaten or conduct offensive operations in the SCS, the US must be prepared to respond to secure this vital, global SLOC. Currently, the majority of planning for US military action against China centers primarily on large-scale operations encompassing the full-spectrum of US military capabilities. While preparing for a potential enemy's most dangerous course of action is a prudent measure, its singular focus does not provide policy options to meet varying conflict scenarios. The Chinese could employ limited military operations to secure their claims and apply jurisdiction in the SCS. Thus, the US should prepare for a limited response to such actions. By employing an air and maritime exclusion zone (EZ), the US and its allies could secure SCS SLOCs and deter further Chinese aggression by providing a buffer zone between Chinese forces and their neighbors, all while limiting the scale of the conflict.

The Scenario

After a four week standoff between Chinese, Philippine, and Malaysian fishing and patrol vessels over access to the Royal Charlotte and Ardaiser Reefs in the southern SCS, tensions escalate with increasing political rhetoric, domestic calls to enforce national rights, and naval harassment operations from all sides. Concerns over violent conflict lead to international pleas for calm and diplomacy. However, these pleas fall on deaf ears as neither side backs down from its claims after decades of unresolved territorial disputes and years of economic depression have created an explosive environment.

As the dispute continues, US intelligence receives clear indications and warnings of a Chinese military buildup in the south. Air and naval

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[1] US Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2011* (Washington: DC, Department of Defense, 2011), 39.

forces from other sectors proceed to bases on Hainan Island in anticipation of military action. The Chinese warn that unless the Philippines and Malaysia withdraw their forces from the disputed area, they will enforce their claims and impose jurisdiction in their SCS EEZ. Faced with an overwhelming threat, the Philippines and Malaysia request immediate international support. Responding quickly, ASEAN, the US, Australia, Japan, and South Korea condemn Chinese actions. With international support, the US and its allies declare an air and maritime EZ within the SCS. They rapidly deploy forces to preplanned bases in the area of responsibility (AOR) and begin patrols in the SCS. For now, the Chinese hold their forces within their international territorial boundaries. However, the threat of violence looms as two modern forces standoff over this vital SLOC.

The EZ's Purpose and Form

Given the above scenario, the EZ's purpose would be to prevent further violence, maintain freedom of navigation, and enforce international law with regard to the UNCLOS. Similar to OSW, EZ forces would deter Chinese aggression by providing a buffer zone between Chinese and neighboring forces. According to Tart, successful deterrence requires effective communication, credibility, and capability.[2] First, the US must effectively communicate its intent and EZ restrictions to the Chinese and the international community. As a minimum, the EZ should prohibit the introduction of Chinese naval and air forces into SCS international waters. Several regional nations currently occupy disputed islands in the SCS with small military outposts. Vietnam, China, the Philippines, Malaysia, and Taiwan occupy between 45 and 58 small

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[2] William M. Tart, *No Fly Zones: Costs, Benefits, and Conditions* (Maxwell AFB, AL: School of Advanced Air and Space Studies, 2001), 22.

islands, reefs, or shoals.[3] In order to prevent further territorial squabbling, the EZ should allow regional nations to maintain these facilities at their current levels with unarmed resupply ships. However, the EZ should prohibit introducing more weapons intended to build military capacity or challenge SCS EZ forces.

The US and its allies must also communicate the exact EZ limits to their adversary. It must cover a significant portion of the AOR in order to effectively limit Chinese aggression throughout the region. Figure 7 illustrates potential SCS EZ boundaries.
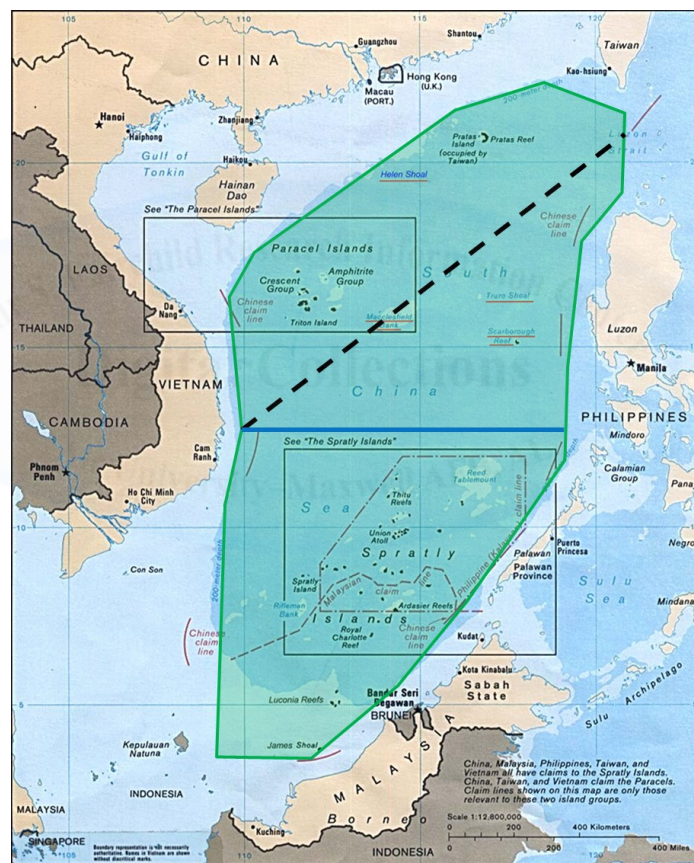
Figure 7. Potential SCS Air and Maritime Exclusion Zone

Source: Robert T. Nelson, CDR, US Navy, Strategic and Operational Implications of Access to the South China Sea to Maintain Regional Peace and Security (Newport, RI: Naval War College: 16 May 2003), 3, with illustrations added by the author.

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[3] Chris Rahman and Martin Tsamenyi, "A Strategic Perspective on Security and Naval Issues in the South China Sea," *Ocean Development and International Law* 41, no. 4 (2010), 319.

The proposed EZ (illustrated in green) extends along a littoral shelf in a zone 1200 nm north to south and 600 nm east to west, covering approximately 600,000 square nm or 800,000 square miles. Deterrence efforts would primarily concentrate operations in the northern half of the zone, defined by the area north of 12° 30' N (the blue solid line), covering an area of approximately 460,000 square miles. Furthermore, the majority of emphasis would occur in the far north of the EZ in an area roughly 200 nm deep and 800 nm wide (212,000 square miles), delineated by the area north of the black dashed line. In contrast, OSW, the largest exclusion zone to date, covered approximately 88,000 miles. Of note, the Chinese maintain a small military outpost with a single runway on Woody Island in the Paracels.

Credibility to deter Chinese aggression comes first from clearly defined strategy with allied consensus to act should China decide to test the EZ. Though many of these concerns reside at the strategic level, and therefore with national command authorities, allied consensus has important implications for the operational level of war. To the maximum extent possible, the US and its allies should operate under a unified command structure to prevent the diplomatic and military rifts that occurred during OAF. Unlike OSW, the alliance must agree on the ROE for intercepting and engaging challenges to the EZ. They should determine escalation criteria and procedures should deterrence fail to prevent the lapses in strategy and operations such as NATO's rush to adjust after the first three days of OAF. Finally, the US and its allies must agree to a military end state by which EZ operations can cease and forces can redeploy to their permanent bases. In this scenario, the end of Chinese threats to use force, the return of additional Chinese forces to their permanent bases, and the secure, free flow of global commerce would dictate an end to EZ operations.

Finally, the US and its allies must have the military capability to defeat Chinese aggression. In recent years, the Chinese have taken considerable steps to bolster their power projection capabilities. SCS EZ forces must consider a challenging array of modern surface, subsurface, and airpower capabilities to establish a buffer zone against Chinese aggression.

Chinese Power Projection in the SCS

Prior to the mid-1990s, the Chinese lacked the ability to project sustained combat power well outside their borders or defend themselves from modern air and naval forces employing standoff weapons.[4] The Chinese inability to effectively respond to the presence of two US aircraft carriers in the Taiwan Straits during the 1995-1996 crisis confirmed these weaknesses. Since that time, the Chinese have embarked on a rapid military modernization program focused on fielding capabilities to inhibit US military access by targeting bases, mobile targets such as aircraft carriers, and battle networks.[5] Described as "shashoujian," or assassin's mace, the Chinese intend to make US military operations cost prohibitive through a three-fold strategy of hampering power projection, preventing forces from entering their effective range, and defeating them once they come into range.[6] The US military calls this strategy anti-access, area denial (A2/AD).

According to Jan Van Tol, a complete Chinese A2/AD operation would cover a range of effects including attacks on US space, cyber, data link networks, heavy ballistic and cruise missile attacks against forward and rear bases, and combined air, surface, and subsurface attacks

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[4] Felix K. Chang, "China's Naval Rise and the South China Sea: An Operational Assessment," *Orbis* 56, no. 1 (January 2012): 29.

[5] Andrew F. Krepinevich, *Why AirSea Battle* (Washington, DC: Center for Strategic and Budgetary Assessments, 2010), 13.

[6] Krepinevich, *Why AirSea Battle*, 13-4.

against US forces that make it to the theater.[7] While allied forces may not encounter all of these threats, Chinese improvements in surface fleet, submarine, air superiority, and long-range air strike operations would provide considerable challenges to EZ operations.

China's LUYANG-I and II destroyers and JIANKAI-II class guided missile frigates form the backbone of its South Fleet surface forces.[8] Armed with either SA-N-7 or SA-N-12 surface-to-air missiles (SAM) systems, the LUYANG-I has credible anti-air or anti-cruise missile capability out to 19 nm.[9] JIANKAI-II frigates carry the HQ-16 SAM capable of engaging multiple air targets out to 50 nm.[10] With the HQ-9 SAM system, an enhanced version of the SA-10, LUYANG-II destroyers can engage air targets out to 62 nm at all altitudes.[11] Though not assigned to the South Fleet, China possesses two SA-N-20 capable LUZHOU class destroyers. These systems can engage stealth aircraft, cruise, and ballistic missiles from the surface to 164,000 ft out to 216 nm.[12] These vessels could rapidly deploy to support the South Fleet during a conflict. Employing advanced phased-array radars, robust data processing capabilities, and capable missiles, these systems are extremely difficult to jam and virtually impossible to overfly.[13] In addition, the LUYANG-I and JIANKAI-II both carry the YJ-83 anti-ship cruise missile (ASCM) with an 80 nm range, while the LUYANG-II carries

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[7] Jan Van Tol et al., *AirSea Battle: A Point of Departure Concept*, (Washington, DC: Center for Strategic and Budgetary Assessments, 2009), 18-9.

[8] Chang, "China's Naval Rise and the South China Sea," 29.

[9] MilitaryPeriscope, "SA-N-7 Gadfly" http://www.militaryperiscope.com/weapons /missrock/antiair/w0004269.html, and GlobalSecurity, "SA-17, SA-N-12, HQ-16," http://www.globalsecurity.org/military/world/russia/sa-17.htm (accessed 1 May 2012).

[10] GlobalSecurity, "SA-17, SA-N-12, HQ-16," http://www.globalsecurity.org/milit ary/world/russia/sa-17.htm (accessed 1 May 2012).

[11] Chang, "China's Naval Rise and the South China Sea," 29.

[12] GlobalSecurity, "Type 51C Luzhou AAW DDG," http://www.globalsecurity.org/ military/world/china/luzhou.htm (accessed 1 May 2012).

[13] Major John V. Bartoli, *Bending the Eagles Wing: How Advanced Air Defenses Put the Enemy's Vital Centers Beyond the Reach of American Airpower* (Maxwell AFB, AL: School of Advanced Air and Space Studies, 4 June 2010), 18.

the improved 150 nm capable YJ-62 ASCM, providing excellent standoff range against surface vessels.

Currently, YUAN and SONG class diesel attack submarines form the mainstay of Chinese South Fleet subsurface forces.[14] Each of these quiet attack platforms carries up to eighteen torpedoes and several YJ-8 (C-801) ASCM with 26 nm engagement range.[15] The South Fleet also has recently acquired at least one SHANG-class nuclear-powered attack submarine. These vessels incorporate dramatic improvements in "quieting technology," giving them improved maritime surveillance and interdiction capabilities over older their diesel counterparts.[16]

Complementing their considerable naval capabilities, Chinese airpower has improved dramatically in the past few years. Versions of the Su-27 and Su-30 FLANKER provide the Chinese with an excellent fourth-generation air superiority capability. While these fighters are not stealthy, their range and weapons capacities are exceptional. In significant numbers, they would provide a serious challenge to US air superiority efforts. Unrefueled, the aircraft has a combat radius of approximately 1000 nm and can carry up to ten air-to-air missiles.[17] The South Fleet has also begun to acquire converted H-6D aerial refueling tankers, further extending its fighters' range and loiter capabilities.[18]

The People's Liberation Army Air Force (PLAAF) and Naval Air Force (PLANAF) also possesses critical air strike capabilities against US naval vessels operating in the SCS. Su-30 MKK and MK2 FLANKERs

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[14] US Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2011* (Washington: DC, Department of Defense, 2011), 4.

[15] MilitaryPeriscope, "SONG (320) class SS," http://www.militaryperiscope.com /weapons/ships/subs/w0005951.html (accessed 1 May 2012).

[16] US Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2011*, 4.

[17] MilitaryPeriscope, "Su-30 Flanker Multirole Fighter," http://www.militaryperis cope.com/weapons/aircraft/fighter/w0005210.html (accessed 1 May 2012).

[18] Chang, "China's Naval Rise and the South China Sea," 23.

armed with AS-17 Krypton ASCMs are capable of engaging targets out to 44 nm.[19] JH-7A FLOUNDER attack aircraft, new J-10 multirole fighters, and H-6 bombers equipped with YJ-2 and YJ-8 ASCMs can reach maritime targets out to 75 nm and 26 nm, respectively.[20] With each strike aircraft having nearly a 1000 nm combat radius, this allows Chinese airpower to potentially strike US naval vessels in the Spratly Islands from bases on Hainan Island and the mainland. China is in the process of developing the DF-21D anti-ship ballistic missile (ASBM), armed with a maneuverable warhead to avoid interception and capable of striking targets out to 800 nm.[21] Finally, DOD assessments claim China could have its first indigenously produced operational aircraft carrier by 2015.[22] Employing the J-15 fighter, a Chinese naval FLANKER variant, this weapons system could greatly increase China's ability to provide sustained air superiority and air strikes in the SCS.[23]

If the Chinese were to contest the EZ, they would pose a considerably more dangerous threat to US operations than any previous EZ foe. Though, as discussed in Chapter 3, Serb IADS continued to challenge NATO throughout OAF, their older generation SAMs and low numbers of aircraft rarely inhibited air operations. Furthermore, the Serbs possessed no ability to strike at NATO offensively. On the contrary, even while operating outside EZ boundaries, the Chinese have considerable ability to strike US and allied warships operating in the SCS. Figure 9 illustrates Chinese offensive capabilities from ports and bases outside the EZ with the DF-21D weapons employment zone (WEZ)

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[19] MilitaryPeriscope, "AS-17 Krypton air-to-surface missile," http://www.military periscope.com/weapons/missrock/antiair/w0004277.html (accessed 1 May 2012).
[20] MilitaryPeriscope, "CSS-C-8 Saccade," http://www.militaryperiscope.com/wea pons/missrock/antiship/w0005328.html, and "J-10 Multirole Fighter," http://www.mi litaryperiscope.com/weapons/aircraft/fighter/w0005307.html (accessed 1 May 2012).
[21] US Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2011*, 3.
[22] US Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2011*, 3.
[23] Chang, "China's Naval Rise and the South China Sea," 24.

in red, the LUYANG-II ASCM WEZ in orange, and potential Chinese air strike capability from Hainan Island illustrated by the yellow ring.
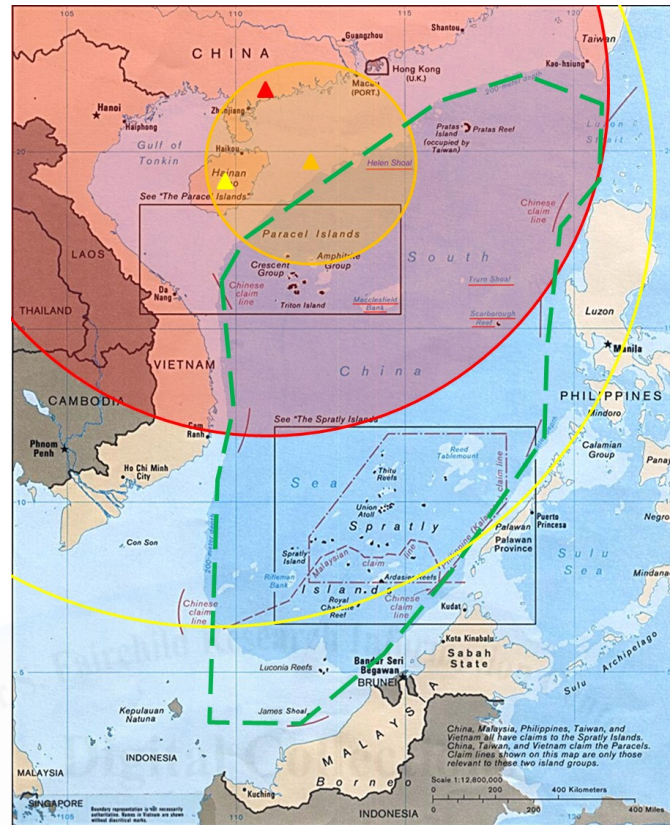
Figure 8. Chinese Strike Ranges in the SCS

Source: Nelson, 3, with illustrations added by the author.

Figure 8 does not illustrate the potential Chinese submarine threat. They are capable of threatening vessels throughout the SCS. High value US military vessels such as aircraft carriers would require significant defensive measures to operate in such waters. The sheer volume of commercial sea and air traffic traversing the region at any time further compounds the problem for EZ forces. Even with reduced traffic, the noise generated from cargo vessels and the SCS rather shallow depth make locating and identifying adversary vessels using sonar technology much more difficult.[24] C2 and ISR forces would be required to sift

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[24] Chang, "China's Naval Rise and the South China Sea," 32.

through a myriad of air and sea tracks to identify threats. The vast distances involved preclude ground-based alert airpower responses to EZ infractions. Strike aircraft based out of the Philippines would require approximately forty-five minutes to reach the Paracel Islands. From bases in Malaysia, it would take well over an hour. This necessitates persistent airborne CAPs to ensure rapid response to Chinese aggression against the EZ.

Finally, the Chinese possess considerable numbers of air, sea, and submarine forces based in or near the SCS. Among the East and South Fleets, the Chinese have nearly 200 combat vessels including thirty-three attack submarines, sixteen destroyers, and forty-one frigates.[25] They also have several seven fighter/attack divisions and one bomber division within range of the SCS, compromising several hundred combat aircraft. They could easily supplement these forces with more aircraft from other regions.

Should the Chinese contest the SCS EZ, they would do so with the ability to project modern combat power against US and allied forces throughout the AOR. Chinese offensive power, busy shipping and air lanes, and the vast distances involved would severely task US military capabilities to patrol and defend this EZ. Specifically for US airpower, SCS EZ operations would require extensive capabilities in C2 and ISR, air superiority, maritime strike, and aerial refueling.

Airpower in the SCS Exclusion Zone

Similar to ONW and OSW, the SCS EZ would cede the operational initiative to the Chinese. The challenge facing coalition forces is to provide outstanding reactive execution against modern threats and across vast distances of open sea. Given the environment, purpose, and threat, the SCS EZ would require outstanding execution from both US

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[25] US Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2010* (Washington: DC, Department of Defense, 2010), 65.

air and sea power. US Navy destroyers, cruisers, submarines, and other vessels are incredibly capable systems that would play an integral role in enforcing the EZ. It is beyond the scope of this thesis to discuss naval operations in detail. Suffice to say US naval and airpower C2, ISR, and strike integration will be critical for successful EZ enforcement against a Chinese threat. However, given the vast distances involved and limited resources, airpower will play a central role in EZ operations due to its ubiquity, lethality, speed, and range. Thus, this section will focus on airpower contributions to EZ operations.

According to the DOD after-action report on OAF, advances in C2 and ISR produced great improvements in capabilities to detect, identify, and engage hostile targets quickly. It boasts these advances allowed for targeting updates within the twenty-four hour air tasking order cycle and, on some occasions, enabled "flex targeting" of airborne assets.[26] Described as C4ISR in current doctrine, continual improvements in this area have provided the US with significant dynamic targeting capability, as evident in OIF, OEF, and OUP.[27] The SCS EZ would require C4ISR capabilities to contend with modern air and maritime threats over such large area.

First, force coordination would play a much more critical role in the SCS than in previous coalition operations. Indonesia, Malaysia, and Vietnam use many similar weapons platforms as the Chinese to include Su-30 fighters, submarines, and missile systems.[28] Even if, as this chapter assumes, these forces remain in defensive postures near their home territory, considerable coordination must occur to minimize confusion over the identity of military assets operating in the SCS EZ.

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[26] US Department of Defense, *Kosovo/Operation Allied Force After-Action Report*, Report to Congress (Washington, DC: Department of Defense, 31 January 2000), 58.

[27] C4ISR stands for command, control, communications, computers, intelligence, surveillance, and reconnaissance. Joint Publication (JP) 1-02, *Department of Defense Dictionary of Military and Associated Terms* (amended 15 January 2012), A-20.

[28] Chang, "China's Naval Rise and the South China Sea," 29-37.

Unlike NATO, the US and SCS regional allies do not operate under similar doctrine or procedures. Though combined training exercises discussed in Chapter 4 would help mitigate these issues, the US should invest in time and effort to develop coordination systems and procedures in advance.

Providing early detection, identification, and communication of Chinese threats in a non-permissive environment will require significant ISR capabilities. Simply finding, fixing, and tracking such threats has become the greatest challenge to ISR forces.[29] ISR assets must be able to detect and identify air and maritime threats in potentially dense traffic environments. Rather than massing in force, contemporary enemies may attempt to avoid detection or remain under the protective umbrella of advanced IADS. Chinese long-range strike capabilities necessitate the ability to detect and identify threats as early as possible to permit engagement before the threats can attack friendly forces or to allow for timely defensive reactions. Traditional ISR high-value assets such as the E-3 AWACS, E-2 HAWKEYE, E-8 JSTARS, and P-3 ORION, while extremely capable, must maintain considerable distance from modern threats to prevent their loss. This reduces their effectiveness at detecting threats to the EZ. Similarly, unmanned platforms such as the RQ-4 GLOBALHAWK, MQ-1 PREDATOR, and MQ-9 REAPER possess limited capability to operate in these environments.

In regards to air superiority, fourth generation fighters such as the F-15, F-16, and F/A-18 have remained relatively unchallenged in recent aerial combat. Against current Chinese fighters alone, continually upgraded versions of these venerable aircraft would still provide ample anti-air capability. However, when combined with modern air threats, advanced, long-range SAM systems severely restrict fourth generation employment envelopes. HQ-16, HQ-9, and SA-N-20 SAMs on Chinese

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[29] Lt Gen David A. Deptula, USAF, "Toward Restructuring National Security," *Strategic Studies Quarterly* 1, no. 2 (Winter 2007): 10.

naval vessels deployed just outside the EZ would force legacy aircraft to operate outside SAM ranges without considerable jamming support.

Modern, long-range, and mobile SAM threats would also challenge US SEAD and precision strike capabilities. As discussed in Chapter 3, NATO forces had great difficulty targeting radar-guided SAM systems due to Serb tactics. By remaining mobile and waiting for targets of opportunity, the Serbs were able to conserve their systems and harass NATO air operations throughout the war.[30] The Chinese could adopt the same tactics with their advanced naval SAM systems, challenging the EZ at the time and place of their choosing. US capabilities to suppress such systems are limited due to technological shifts toward the defensive and reductions in force structure.[31] Systems such as the SA-N-20 can defend themselves against multiple air threats to include stealth aircraft, incoming missiles, and other ordnance.[32] They also can provide an effective point defense for other potential targets against US strike assets. Neutralizing these SAMs requires simultaneous precision attacks and saturation tactics using multiple aircraft, decoys, and munitions to overwhelm these systems.[33]

Lastly, sustaining US combat airpower in the SCS through aerial refueling operations will severely challenge US tanker capabilities. During OAF, the US used 175 tankers to support several hundred coalition combat aircraft.[34] Aerial refueling assets struggled to keep pace with requirements ranging from intercontinental B-2 sorties to maintaining four 24-hour fighter CAPs over the AOR.[35] With an aging tanker fleet, current proposals for the USAF's new tanker, the KC-46A,

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[30] US Department of Defense, *Kosovo/Operation Allied Force After-Action Report*, 65.

[31] Bartoli, *Bending the Eagles Wing*, 66.

[32] GlobalSecurity.org, "Type 51C Luzhou AAW DDG."

[33] Bartoli, *Bending the Eagles Wing*, 74.

[34] Benjamin S. Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment* (Arlington, VA: RAND Corporation, 2001), 174.

[35] US Department of Defense, *Kosovo/Operation Allied Force After-Action Report*, 33.

call for the acquisition of just 179 aircraft at a rate of 15 per year during the first round of a three phase replacement plan.[36] Fighters and ISR assets would require extensive aerial refueling support to maintain persistent CAPs over the EZ. In addition, tanker aircraft are generally stationed far from the AOR due to lack of basing and to keep them out of threat envelopes.[37] The distances involved in operating tankers from rear bases in the SCS would greatly increase strain on aerial refueling capacity.

Quite simply, if the US were to conduct EZ operations in the SCS today, it would require placing a significant amount of US airpower at risk. During Operation DESERT STORM, the US utilized roughly 27% of its entire tactical aircraft force.[38] It deployed 96 F-15C fighters, only 11% of its total, to provide air superiority over Iraq.[39] Though OAF was a substantially smaller operation, force cuts required a higher percentage of USAF forces than in 1991. The USAF used 236 fighter, attack, and bomber aircraft in OAF, roughly 40% of the entire force.[40] Both operations required nearly 40% of its total active duty personnel.[41]

Figure 7 (page 76) illustrates proposed SCS EZ boundaries. To provide fifth generation air superiority against advanced threats in the northernmost emphasis area alone, the US would need to maintain an absolute minimum of three CAPs of four aircraft spaced across the 600 nm wide EZ. Fighters based along the southern rim of the SCS would take one and a half hours to reach their patrol areas. Given

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[36] Jeremy Gertler, *Air Force KC-X Tanker Aircraft Program: Background and Issues for Congress* (Washington, DC: Congressional Research Service, 22 December 2009), 1.

[37] Thomas P. Ehrhard, *An Air Force Strategy for the Long Haul*, (Washington, DC: Center for Strategic and Budgetary Assessments, 2009), 44.

[38] Thomas A. Keaney and Eliot A. Cohen, *Gulf War Air Power Survey: Summary Report* (Washington, DC: Government Printing Office, 1993), 211.

[39] Bartoli, *Bending the Eagles Wing*, 52.

[40] Martin Andrew, "Revisiting the Lessons of Operation Allied Force," *Air Power Australia*, Analysis 2009-04, 14 June 2009, http://www.ausairpower.net/APA-2009-04.html (accessed 1 May 2012).

[41] Lambeth, *NATO's Air War for Kosovo*, 172.

considerations for travel time to and from the CAP, ground operations, and maintenance requirements, it would take one full F-22 squadron to man each CAP for continuous twenty-four hour patrols. The USAF has six total F-22 squadrons. With only three CAPs, this necessitates deploying 50% of the total US F-22 combat inventory. In this configuration, each CAP would be responsible for patrolling a 200 nm wide lane, significantly larger than US fighters would normally patrol due to speed and intercept capabilities. Furthermore, these forces would only be capable of maintaining persistent CAPs for a couple of days without reinforcements or loss of continuous patrols due to maintenance down time.[42]

Maritime strike and SEAD fighter operations would also levy heavy deployment requirements on those forces, with larger formations required to counter Chinese threats using fourth generation aircraft such as the F-15E, F-16, and F/A-18. Finally, maintaining persistent ISR and meeting aerial refueling requirements would significantly strain US airpower force structure. The 175 tankers used during OAF struggled to provide adequate aerial refueling capability for just four persistent four-ship fighter CAPs, transiting bombers, and their support forces.[43] The SCS EZ would require considerably more aerial refueling for up to twelve continuous fighter CAPs, multiple ISR orbits, and other coalition aircraft. In total, SCS EZ operations could require the USAF to deploy over 50% of its total advanced fighter, ISR, and aerial refueling force inventory.

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[42] The author and Maj Jason Camilletti, SAASS, prepared this estimate. It assumes an eighteen to twenty aircraft squadron, average mission capable rates, ground operations times, and transit to and from the AOR. It also assumes four-ship CAPs to allow two-ship elements to aerial refuel and keep the other element on station. After several days of twenty-four hour operations, aircraft attrition due to maintenance would make it increasing difficult to consistently provide four aircraft for each formation. Other fighter aircraft, such as the F-15, F-16, and presumably the F-35, would suffer from similar constraints. Additionally, four-ship fighter CAPs are generally responsible for areas less than 100 nm wide to allow for effective intercepts of threat aircraft. Meeting this requirement would necessitate virtually the entire USAF F-22 fleet.

[43] Lambeth, *NATO's Air War for Kosovo*, 174.

Current DOD policy requires enough forces to engage and win one major combat operation in a theater, while simultaneously denying an aggressor in another theater the ability to achieve their objectives.[44] If one considers a SCS EZ to be a denial action rather than a "major combat operation," these estimates call into question the ability of US airpower to meet the demands of current policy given the current its current state. Since 2001, the USAF inventory decreased by over 500 aircraft. Conversely, the average age of the force has risen dramatically.[45] Currently proposed cuts will reduce USAF force structure by 186 more aircraft in the next year.[46] Though the US currently has the capability to deter Chinese aggression in the SCS using an EZ, the potential percentage of US airpower assets required to achieve this would make US deterrence cost prohibitive in accordance with DOD policy.

As more nations acquire modern military capabilities, the US must have the capability and credibility to deter an advanced enemy while still maintaining sufficient forces to win in a major combat operation. With dwindling defense budgets due to austerity measures, the US must make critical choices as to where it will spend its defense dollars to best posture the nation for future military contingencies. Airpower's unique capabilities have made it an indispensable weapon on the modern battlefield, able to rapid deploy across the globe and project power across all domains. However, just as airpower has become this indispensable force, the US does not have the capabilities or numbers to credibly use it to achieve its policy objectives in future scenarios. The US must reconstitute its airpower forces around advanced systems capable of projecting combat power in modern threat environments.

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[44] US Department of Defense, *Defense Budget Priorities and Choices* (Washington DC: Department of Defense, January 2012), 7.

[45] The average age of the fleet: fighters - twenty-two years, bombers - thirty-five, and tankers – forty-seven years. Office of the Chief of Staff of the USAF, *Air Force Priorities for a new Strategy with Constrained Budgets* (Washington, DC: Government Printing Office, February 2012), 1.

[46] *Air Force Priorities for a new Strategy with Constrained Budgets*, 3.

Recommendations

      The US must first invest in long-range, persistent, fast, and stealthy ISR assets. Such assets would provide real-time threat warning, targeting, and post-strike assessment information to enable effective air superiority, SEAD, and strike operations against distant Chinese threats.[47] Although the exact capabilities of the RQ-170 SENTINEL remain classified, SCS EZ operations would require similar systems. Second, the US military must capitalize on the inherent ISR capabilities of its modern systems. According to Deptula, the F-22 is not just a fighter. With advanced sensors and data link capability, it can also function as an ISR platform in an integrated command, sensor, and shooter network.[48] Advanced data links such as Link-16 have greatly increased combat effectiveness in many mission areas. However, many platforms still lack this capability or have incompatible data link systems preventing efficient data transmission. The Multifunction Advanced Data Link (MADL) system developed for the F-35 was originally intended to provide commonality. But the USAF cancelled MADL upgrades for the F-22 in 2011 due to budgetary concerns.[49] The DOD must pursue data link commonality to allow for the rapid transfer of command, sensor, and targeting information across joint systems.

      Within this common data link architecture, the US must pursue engage-on-remote (EOR) and forward pass capabilities to effectively link sensors and shooters and allow for accurate targeting over long ranges. EOR capable strike platforms can engage targets using targeting data from off-board sources. Forward pass uses off-board systems to update a weapon's targeting data during its time of flight to the target. With mobile air and surface threats employing long-range ordnance such as

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[47] Bartoli, *Bending the Eagles Wing*, 73.

[48] Deptula, "Toward Restructuring National Security," 11.

[49] Dave Majumdar, "Cost, Risk Scuttle Planned Raptor Data Upgrade," *Air Force Times* (31 Mar 2011), http://www.airforcetimes.com/news/2011/03/air-force-raptor-madl-upgrade-033111w/ (accessed 1 May 2012).

the LUYANG destroyer, EZ forces must be able to accurately target such threats even when the system employing the weapon is unable to track the target individually. Using numerous stealthy ISR platforms to provide initial targeting and guidance update information, strike platforms could remain outside threat range and still effectively engage EZ threats.

With increasing delays in F-35 full rate production, legacy fighters and bombers will continue to form the foundation of US airpower force structure. Therefore, in the short term, the DOD must acquire effective standoff precision munitions capable of targeting maritime and land targets to bolster legacy aircraft capability. These munitions must be numerous, stealthy, and fast in order to engage mobile threat systems from long range with multi-axis attacks. In the long run, the US must reconstitute its aging airpower force structure around stealthy platforms capable of operating in high threat environments.[50] Given its extraordinary capabilities, the F-22 will provide the backbone of US air superiority efforts. However, it cannot do it alone. With less than 150 combat coded aircraft and production terminated, large operations would severely task F-22 force structure. Though it is not as capable as the F-22 in certain areas, the US must procure the F-35 in considerable numbers to strengthen fifth generation air-to-air and air-to-surface capabilities.

Currently, the DOD expects to deploy 2,443 F-35s to the USAF, USN, and Marine Corps, taking delivery of the last aircraft in the 2030s.[51] First, the F-35 lacks the stealth capabilities of either the F-22 or B-2, making it vulnerable to advanced threat systems at anything other than a head-on aspect.[52] Second, with an unrefueled combat

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[50] Lt Gen Deptula, USAF (ret), interview 28 March 2012.

[51] MilitaryPeriscope, "F-35 Lightning II," http://www.militaryperiscope.com/weapons/aircraft/attack/w0004635.html (accessed 1 May 2012).

[52] Bartoli, *Bending the Eagles Wing*, 63.

radius of approximately 600 nm, the F-35 does not have the ability to conduct longer range strikes than current legacy fighter platforms.[53] While it will bring needed sensor and targeting capabilities to the fight, the US must reduce planned F-35 procurement in favor of more capable, long range strike platforms. It must invest heavily in systems such as the Long Range Strike-Bomber (LRS-B) and Navy Unmanned Combat Air System (N-UCAS). Current LRS-B proposals call for a stealth platform capable of penetrating advanced IADS and employing a variety of ordnance at ranges of up to 5,000 nm. The USAF currently plans to acquire only 80-100 of these aircraft.[54] Similarly, the USN is developing the N-UCAS stealth strike platform with ranges up to 1,500 nm and fifty to one hundred hour maximum loiter times, allowing it to project power well into A2/AD environments while minimizing the risk to its vessels.[55]

Finally, given concerns with legacy KC-135 life span due to structural concerns, the US should increase its KC-46 acquisition to replace aging tankers at an increased rate.[56] Without guaranteed aerial refueling, the US would be unable to project sustained airpower over such long distances and durations.

Conclusion

According to Lt Gen Deptula, "It is strategically important to be able to operate exclusion zones against a modern threat."[57] China is not the only potential modern threat the US may face in the near future. Iran continues to pursue advanced A2/AD technologies to deter

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[53] MilitaryPeriscope, "F-35 Lightning II."

[54] Philip Ewing, "The Air Force's Simple, No-Frills, Advanced New Bomber," *DODBuzz.com* (13 February 2012), http://www.dodbuzz.com/2012/02/13/the-air-forces-simple-no-frills-advanced-new-bomber/ (accessed 27 March 2012).

[55] Robert O. Work, *The US Navy: Charting a Course For Tomorrow's Fleet* (Washington, DC: Center for Strategic and Budgetary Assessments, 2008), 70.

[56] See Appendix F: Potential Longevity of KC-135 Fleet, in Gertler, *Air Force KC-X Tanker Aircraft Program*, 89-91.

[57] Lt Gen Deptula, interview 28 March 2012.

its adversaries. Should it attempt to make good on its promise to close the Strait of Hormuz, the US and its allies would face a challenging scenario to restore regional stability. Additionally, a resurgent Russia under Vladimir Putin could present similar threats.

To meet the future military challenges with credible, capable force, the US must reverse the decade-long downward trend of its airpower. It should aggressively pursue modernization in sufficient numbers to allow for action in accordance with policy guidance without placing the entire force at risk. It should also aggressively develop advanced capabilities to ensure the US can continue to project power in modern threat environments. Finally, successfully preparing the US military for such challenges requires a new way of thinking about joint acquisition and employment.[58]

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[58] The USAF and USN have been developing the AirSea Battle (ASB) concept of operations since 2005. ASB seeks to address the critical operational challenges presented by A2/AD environments with integrated air and maritime operations. Despite nearly seven years of work, according to USAF Col Vincent Alcazar and USN Capt Henry Hendrix, ASB is still "a mile wide and an inch deep." They assert the USAF and USN must make considerable gains in joint acquisition and interoperability for the concept to succeed. Interview, Col Vincent Alcazar, USAF, and CAPT Henry J. Hendrix, USN, 27 February 2012.

Conclusion

"This country is at a strategic turning point after a decade of war and, therefore, we are shaping a Joint Force for the future that will be smaller and leaner, but will be agile, flexible, ready, and technologically advanced. It will have cutting edge capabilities, exploiting our technological, joint, and networked advantage. It will be led by the highest quality, battle-tested professionals. It will have global presence emphasizing the Asia-Pacific and the Middle East while still ensuring our ability to maintain our defense commitments to Europe, and strengthening alliances and partnerships across all regions."

US Secretary of Defense Leon Panetta, 5 January 2012

As the world changes, one thing appears consistent: the US will continue to play a central role in the maintenance of international order. Today, with dwindling budgets and soaring deficits, the task for policy makers is to develop a strategy that best prepares the US to meet the challenges of a changing future. That strategy, I believe, is off-shore balancing and the means to ensuring its success can be summed up in one word: airpower.

What would a turn to offshore balancing mean? For one thing, it means the US could exert its influence through the strength of regional alliances. It could bolster regional allies' capacity to balance against rising threats with minimal forward deployed force by aiding regional military development with doctrine, training, and capabilities. By forcing our allies to take more responsibility for their security, offshore balancing would also foster respect for allied interests while simultaneously reducing US defense expenditures.

Further, the US should heed the value of containment rather than elimination. In 2003, the US and a coalition of the willing invaded Iraq to remove Saddam Hussein from power, end the Iraqi threat to their neighbors, and eliminate Iraq's weapons of mass destruction (WMD). Nearly nine years later, the US left Iraq nearly $824 billion poorer and

with thousands dead or wounded (not to mention the huge costs to Iraq itself). While it is true OIF eliminated the Iraqi threat to its neighbors or the global supply of oil, it is also true that Iraq did not pose a significant threat to the region let alone the world during the twelve year EZ operations over its territory. ONW and OSW allowed the US to effectively contain Iraqi aggression at minimal cost while maintaining the balance of power in the Middle East.

In today's fiscally constrained environment, the US must make tough choices in regards to defense spending. Acting as an offshore balancer will require the US to maintain lean, flexible, and rapidly deployable forces to deal with crises. Airpower's unique capabilities of ubiquity, speed, range, and lethality lend it well to offshore balancing strategies. Modern airpower allows the US to respond quickly, deploying combat power to a theater in hours, not days. It can maintain a persistent presence on the battlefield and rapidly react to threats at great distance. Lastly, dramatic improvements in C2, ISR, and precision strike have given airpower the ability to exert control over every other war fighting domain. As Gray states, the US should build upon its asymmetric advantage and develop airpower to the fullest.[1]

Sustaining our advantage involves maintaining sufficient critical capabilities and investing in adequate force structure to allow the US to project power into any environment. Rising powers such as China are investing heavily in large military forces with A2/AD capabilities to make US power projection too costly and prevent the US from intervening in regional affairs. As OAF demonstrated, capable adversaries can challenge US combat operations with less advanced systems. Modern adversary IADS and strike platforms will challenge US force projection even more so. The US must develop the ability to detect, identify, and

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[1] Colin S. Gray, *The Airpower Advantage in Future Warfare: The Need for Strategy*, Research Paper 2007-2 (Maxwell AFB, AL: Airpower Research Institute, December 2007), viii.

engage targets over vast distances in advanced threat environments to ensure continued US power projection capabilities in future conflicts. Finally, the US must ensure it has sufficient forces to meet such challenges. Ten years of ground occupation operations have severely atrophied US airpower's ability to counter emerging modern threats through force reductions, lack of conventional warfare focus, and years spent training for and executing counterinsurgency operations. If ordered to take only limited action against a modern threat tomorrow, the US would potentially have to deploy such a high percentage of its total airpower forces as to make a response cost prohibitive. For the global hegemon seeking to maintain the current order, this is an untenable position.

The primacy strategy and ground occupation operations of the last decade should be viewed as an anomaly in US grand strategy. The US should return to a strategy of offshore balancing enabled through application of superior US airpower. By building its future forces around this modern, indispensable weapon, the US will ensure its ability to maintain the global order for years to come.

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